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ABSTRACT

This practicum was designed to support collaboration among graduate students and faculty in a Master of Science in Nursing Leadership and Post-Master's Case Management distance education program taught via videoconferencing. Students attend class at 11 videoconferencing centers scattered throughout a large western state. The geographically separated students tended to confine collaborative group project interactions to same-site colleagues because communication tools were inefficient, costly, unavailable, or did not support timely completion of collaborative work. Web-based instruction (WBI) was integrated into the curriculum to provide students and faculty with easily accessible and effective tools for collaboration. WBI training was provided for faculty and students via videoconference and online tutorials. Intensive technical support was provided to students to help them achieve skills requisite for performing in an academic online environment. The integration of WBI to support collaboration was very successful. Students and faculty were able to communicate in a variety of ways and could complete academic activities at locations and times that were most convenient to them. The tools that WBI provided were instrumental in helping students submit collaborative work that faculty often identified as far exceeding their expectations. Appendices include copies of the course home page, tutorials, course syllabus, and a sample student project. (Contains 51 references.) (Author/AEF)

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ED 427 757

Integration of Web-Based Instruction to Support Collaboration in a Graduate Nursing Program Taught via Multipoint Interactive Videoconferencing

by
Robert C. Geibert
Cluster 1

A Practicum Report Presented to
the Ed.D. Program in Instructional Technology and Distance Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

Nova Southeastern University
1998

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APPROVAL PAGE

This practicum took place as described.

Verifier: Gregory L. Crow, Ed.D.

Title

Address

Date

This practicum report was submitted by Robert C. Geibert under the direction of the adviser listed below. It was submitted to the Ed.D. Program in Instructional Technology and Distance Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Nova Southeastern University.

Approved:

Date of Final Approval of Report

Mary Ellen Sapp, Ph.D., Adviser

Abstract

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The practicum was designed to support collaboration among graduate students and faculty who are involved in a Master of Science in Nursing Leadership and Post-Master's Case management distance education program that is taught via videoconferencing. Students attend class at any of 11 videoconferencing centers that are scattered throughout a large western state. The geographically separated students tended to confine their collaborative group project interactions to same-site colleagues because communication tools were inefficient, sometimes costly, unavailable, or did not support timely completion of collaborative work.

The writer integrated Web-based instruction (WBI) into the curriculum as a way to provide students and faculty with easily accessible and effective tools for collaboration. The writer provided training for faculty and students regarding Web-based instruction via videoconference and online tutorials and assumed the role of technical support person. Due to unforeseen technical difficulties, the writer also assumed a leadership role in transferring the online courses to two different Web servers, restructured the course design to accommodate available resources, and acted as Webmaster. The writer also provided intensive technical support to students to help them achieve skills requisite for performing in an academic online environment.

The integration of WBI to support collaboration in the graduate nursing program was very successful. Students and faculty were able to communicate in a variety of ways and could complete their academic activities in the locations and times that were most convenient to them. The tools that WBI provided were instrumental in helping students submit collaborative work that faculty often identified as far exceeding their expectations.

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Robert C Geibert
(Signature)

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Chapter I: Introduction

Description of Community

Eleven communities, ranging from rural to large metropolitan, were included in this distance learning practicum. Each community, scattered throughout one state in the western region of the United States, was selected because of its affiliation with one of the two sponsoring organizations, a state university (SU), and a health maintenance organization (HMO), that are involved in a distance learning program as a joint venture.

The SU is situated in a rural community with a population of approximately 36,000 residents and is a major employer in the area. The community, surrounded by rich agricultural resources including farmland and vineyards, is within a 1-hour driving distance from a major western metropolitan city with a population of 750,000 and has maintained a "small town" atmosphere.

The HMO has a large corporate office located in a metropolitan community of 372,000 people, and it serves as the national headquarters for the HMO. It is a major employer in the community that is rich in cultural diversity and that is home to residents of all socioeconomic levels. Administrative offices for the two organizations are located approximately 50 miles apart.

Work Setting

This multi-site work setting is the product of a joint venture between a publicly funded academic institution that grants baccalaureate and master's degrees and a not-for-profit health maintenance organization. From this alliance, the SU provides Master of Science in Nursing (MSN) degrees and a Post-Master's certificate, and the HMO provides

videoconferencing equipment and facilities. The alliance, which offers an MSN, is the first of its kind in the state and has received international attention in educational and corporate arenas because of the effective collaboration between academia and business.

State University

The state university, with a student body of approximately 10,000 students, was founded in 1972 and is one of 23 state university campuses. It is a 4-year liberal arts university that offers eight Master of Science (MS) or Master of Arts (MA) programs.

The Department of Nursing, located in the School of Natural Sciences where this project is based, has an enrollment of approximately 300 students; about 140 of these are graduate students. The department offers a Bachelor of Science in Nursing (BSN) and a bridge program from the Associate Degree in Nursing (ADN) to BSN degree. The school has three MSN programs, including a Family Nurse Practitioner degree and an MSN in either Nursing Leadership or Case Management. The National League for Nursing (NLN), in the fall of 1997, granted the Department of Nursing its highest honor—an 8-year accreditation. In its recommendation, the NLN specifically highlighted the department's cutting edge distance education program.

The SU Department of Nursing vision is "to be a center of excellence for educating students of nursing for a changing health care environment." The Department's mission is to "provide basic and advanced education that prepares students for clinical and leadership roles in nursing and health care" (SU internal document). Author's note: Citations for internal corporate documents will not be included in the reference section to preserve organizational anonymity.

Health Maintenance Organization

The Health Maintenance Organization is the country's largest not-for-profit prepaid group practice HMO, and a major portion of its members reside in a western state. The HMO employs approximately 25,000 Registered Nurses in the state where the practicum took place.

The HMO's philosophy centers on keeping members healthy by "promoting the continued wellness of our members through a combined strategy of preventive care, member education, and appropriate clinical intervention" (internal HMO document). According to the CEO, the organization's vision is to be "America's leading health care organization" (internal HMO document).

The HMO has historically offered comprehensive audiovisual services to better enable the organization to meet its goals, to conduct ongoing continuing education for its professional staff, and to hold regional and national business meetings and conferences. The corporate office maintains a television studio, teleconferencing center, graphics and photography department, and a media library that provides a variety of services including film and tape lending, and taping of satellite broadcast events.

All HMO medical office buildings and medical centers across the nation in 14 states are connected to the teleconferencing system. The HMO is currently in the midst of a $20 million national expansion and upgrade of the teleconferencing system because a determination has been made that the use of videoconferencing is an effective way for groups that are spatially disbursed to communicate important ideas and for the HMO to control meeting costs. In addition to internal utilization of the system, the HMO currently

contracts with five universities in a western state to provide undergraduate and graduate courses, and with two universities to provide degrees via interactive videoconferencing.

The terms "video teleconferencing," "video conferencing," and "videoconferencing" are used interchangeably in the literature and refer to the same concept. Recent literature frequently uses "videoconferencing" and, to provide consistency, the writer will use that term except in some references to the HMO which uses the term "teleconferencing" to describe its broad range of audiovisual services and equipment.

Interactive videoconferencing refers to a teleconferencing system that connects two or more sites to a video bridge which is a computerized switching system. This connection enables two-way video, audio, and data communication between all sites with minimal to no delay. Interactive videoconferencing uses compressed digital video technology to transmit moving images over data networks. The term "interactive" is important because some video systems are only capable of one-way transmission.

Like many organizations that have introduced videoconferencing into their communication networks, the HMO has discovered that the utilization of this method of communication is rapidly increasing. For example, in 1991 the HMO teleconferencing department broadcast 1,708 hours; in 1996 the total reached 7,410 hours. Between 1995 and 1996, broadcast time increased by nearly 1300 hours (internal HMO document).

History of Joint Venture

In 1993, a graduate faculty member at the SU department of nursing, who also consulted in the regional nursing offices at the HMO, envisioned that providing graduate education to nurses at their work site would creatively meet the needs of students, the SU,

and the HMO. His vision was based upon knowledge that health care organizations were experiencing a time of rapid change and that the world of work was evolving from the Industrial Age to the Information Age. He predicted that American workers would need new knowledge and skills to cope with rapid and unrelenting change, and that this new knowledge and skill would enable workers to contribute to the effective and efficient operation of businesses that employed them.

A joint venture between the SU and HMO was started in the spring semester of 1993 and included 15 students from six medical centers in the on-site pilot project. The SU sent faculty to an HMO site where students from the 6 facilities congregated for instruction. An MSN in Leadership was awarded to the first group of graduates in May 1995.

The project was a great success and the originator envisioned that by using the interactive videoconferencing facilities owned by the HMO, the program could expand to additional work sites. The HMO agreed and, in 1994, the SU and HMO formed a partnership to offer the MSN in Leadership and Management to nurses at their places of employment via an interactive videoconferencing format.

The videoconferencing pilot program began with 19 students and was broadcast to four sites located in the northern part of the state. Classes were offered two evenings per week and ran year around. Because the program was available at multiple sites, many of the students were able to participate without leaving their work site. The first class to complete the videoconferencing pilot project graduated in May 1997.

During a formal evaluation of the program, the HMO and the SU noted that graduates of the pilot videoconferencing project were maintaining, or were being

promoted into leadership roles in the HMO's organizational structure. In fact, during recent HMO downsizing, none of the pilot project graduates were affected although many of their colleagues at similar management levels lost their jobs. It should be noted, however, that although most of the students in the videoconferencing program are HMO employees, this is not a requirement for admission.

In addition to an excellent record of job performance and retention, the pilot project demonstrated a higher than average program completion rate. The videoconferencing pilot program ended with an attrition rate of less than 1%, and in the combined on and off-site pilot program, 38 of the 40 students who began the program graduated. Of the two students who did not complete the program, one took a position in another state, and the other was dismissed for academic reasons.

Organizational Roles

Organizational responsibilities and roles for both organizations involved in the MSN program are clearly defined by a written contract.

State University

The SU awards the MSN degree and Post-Master's certificates. It also provides the graduate nursing curriculum, pedagogy, faculty, and the student body. The program is on self-support status and receives no state or university financial assistance. Tuition is $180 per credit unit.

All of the on-campus graduate nursing faculty are registered nurses, have earned doctorates, and have many years of experience teaching in a traditional classroom-based environment. Only the Graduate Program Director (GPD) had experience in teaching via a distance delivery medium and, in particular, via interactive videoconferencing.

As the successful program added students and videoconferencing sites, adjunct faculty members were added to support the on-campus faculty. Depending on class enrollment, the course design, and the professor's preference, a class could have a designated Faculty of Record (FOR) and an Adjunct Faculty (AF) member, or could be led by the FOR alone. The FOR maintained responsibility for course design, content, and process, and determined the final grade.

The AF role was to assist the FOR, to lead small group discussions, to read papers, and to suggest a final grade. The AF member must be at least master's prepared in nursing and must have prior experience teaching in a baccalaureate or master's program. Prior experience in videoconferencing and Web-based instruction (WBI) was preferred.

Graduate students who enroll in the MSN in Leadership or Case Management program must be a registered nurse with a Bachelor of Science in Nursing degree. A student desiring certification in Case Management may enroll with an MSN or be master's prepared in another area. Students in the graduate nursing program are generally older working adults with very busy professional and personal lives. More than 90% of the students are female, and nearly all are employed full time, often in mid- to executive-level administrative positions.

Health Maintenance Organization

The HMO provides 11 interactive videoconferencing sites located throughout the state, broadcast technical support, and operates the videoconferencing network. The HMO assumes financial responsibility for all costs associated with broadcasting, including technical support.

Technical support for each session is provided by at least one technician who is on duty at the broadcast hub. The technician's role is to link the sites together via the microwave and fiber optic network and to troubleshoot any problems that may occur during the class. The technician will videotape sessions when requested, and can link two or more sites together at prescribed times to enable pre-designated multi-site project collaboration. The FOR and AF can teach from any site or hub.

Students or AF easily handle technical operations at individual sites. Their responsibilities are to activate the local equipment and operate the camera control box. Sites are able to contact each other or the videoconferencing control room via telephone during a broadcast, however, this is rarely needed.

Broadcast support and administrative staffs are critical to ensure smooth technical operation of the videoconferencing component. Staff in the HMO Audiovisual department are available to consult concerning the best use of videoconferencing equipment, to advise about preparation of instructional materials and presentations for this medium, and to assist in making overhead transparencies or slides from presentation software files, e.g. PowerPoint. Two nursing Directors of Distance Learning represent HMO regional offices and assist in AF interviewing, videoconferencing site selection, scheduling of rooms, and act as liaisons between the HMO and the SU.

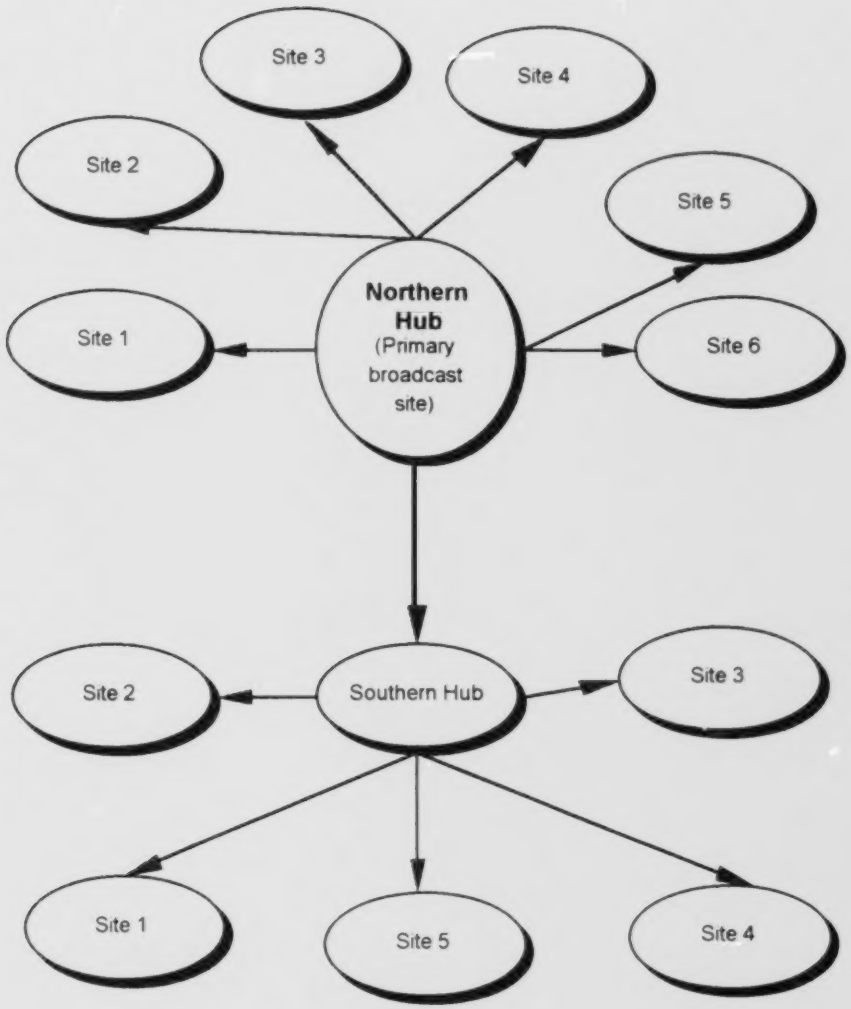

Figure 1. Videoconferencing sites.

The Northern hub serves 11 videoconferencing sites located throughout the state and is the originating site for the class broadcasts. It distributes the signal to six northern sites and the southern hub. The southern hub then splits the signal and broadcasts to the five southern sites.

During a broadcast, all sites are able to participate simultaneously (see Figure 2).

Author's note: This figure was condensed to four sites to simplify the representation.

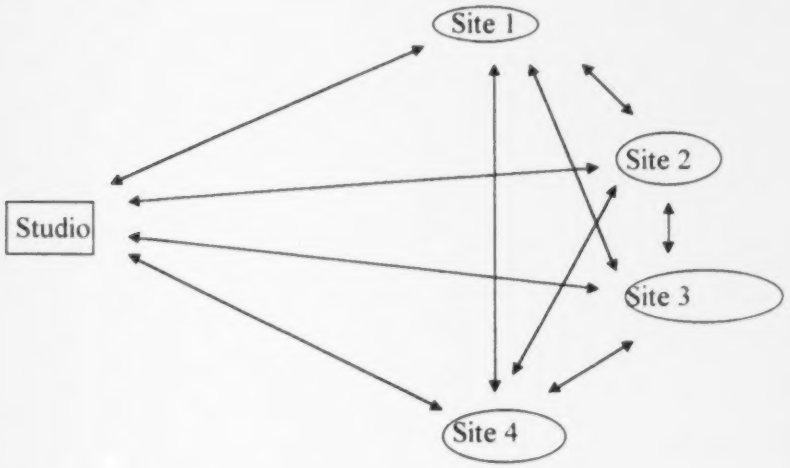

Figure 2. Simultaneous broadcast.

The northern hub broadcasts to all sites simultaneously.

It is also possible for sites to segregate and work independently (see Figure 3).

Author's note: This figure was condensed to four sites to simplify the representation.

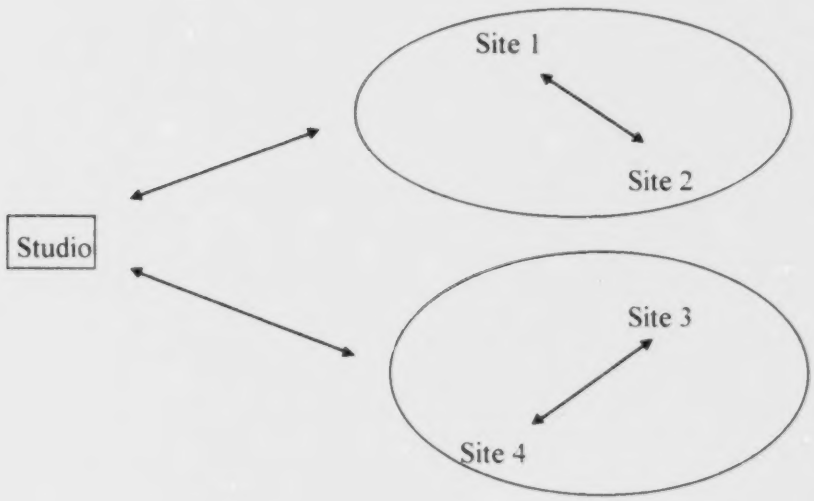

Figure 3. Segregated broadcast.

Coupled sites working independently with faculty.

The videoconferencing equipment is state-of-the-art. British Telecom (BT) Codecs encode and decode the signals. The data transfer rate is 448 Kilobits per second (Kbps) which is 8 phone lines X 56 Kbps. The network is a private microwave network and the northern and southern hubs are linked by leased T-1 lines. Video Server manufactures the Multipoint Control Unit (MCU). Cameras, echo cancelers, and other equipment vary greatly from site to site.

Each of the 11 videoconferencing rooms used in the SU-HMO project is different in size. The type of graphics camera and the availability of a hookup for a laptop computer varies among the sites. Conference tables are generally arranged in a "U" pattern to allow better visualization by viewers at other sites and to allow closer access to on-table microphones and the camera. A small control box is available for participant use to enable muting of the microphone and to control camera movement.

Picture quality is excellent and visual delay between the image and sound is almost non-existent. Cameras are microphone activated and begin transmitting when sound is present, therefore, a slight pause between the time the voice-activated microphone receives input from a particular site and the on-screen image changes to that site may be noticed. Viewers in each site are able to see the image of the participants in their own teleconferencing room that is being broadcast to the other sites in addition to an image from the site where someone is speaking. Participants at each site can mute their microphones while listening to prevent extraneous sounds from unnecessarily activating the microphone and camera.

Work Setting Summary

The writer worked in four locations: (a) at the SU campus in the graduate department of nursing, (b) at one of the 11 videoconferencing sites that was approximately 20 miles from the writer's home, (c) at the HMO northern hub broadcast center, and (d) at home. The writer worked on campus to assist the faculty in converting their courses from a traditional classroom-based format to a distance delivery model. Work at the local videoconferencing site supported the faculty and the students in making the transition to a distance delivery format. Working from the northern hub broadcast center was required only once when special equipment was needed. The majority of the writer's work occurred at home while using some of the technologies that make distance education possible: e-mail, Web publishing, online conferencing, and online chat.

The work setting is unique for many reasons. The joint venture between a publicly-funded academic institution that grants baccalaureate and master's degrees and a not-for-profit health care organization is unique because the arrangement is an innovative capitalization of resources in both organizations. The SU provides the pedagogy and academic expertise, and the HMO provides technologic resources and expertise. The HMO has determined that the academic opportunity this program offers its employees is of such value that the broadcast technology, air time, and support staff are provided by the HMO at no cost to the university or students.

Another unique feature of the writer's work setting is that he was able to effectively apply the distance education model that was the foundation of the practicum by utilizing Web-based technologies to collaborate with students and faculty. This enabled

the writer to perform the majority of work from home or, on occasion, even while traveling.

Writer's Role

The writer is employed at a metropolitan medical center as an Education Resource Specialist. Because of his experience with distance education, varied experiences as a Registered Nurse, and teaching experience, the GPD at the SU invited the writer to assume the role of external subject matter expert and consultant in the area of WBI. The writer's role was to design and to integrate an online instructional component that would introduce into the videoconferencing MSN curriculum new ways that students and faculty could work collaboratively.

The writer had nine specific areas of responsibility:

1. To design, implement, and evaluate a techno-academic bridge for students and faculty that would facilitate collaborative faculty-student, faculty-faculty, student-student, and student-resource interactions.

2. To identify communication tools that would support collaborative learning.

3. To implement use of communication tools that would enable synchronous and asynchronous communication.

4. To participate in design and production of a videotaped documentary that would introduce these concepts to faculty and students.

5. To provide instruction to faculty in Web-based instructional design.

6. To assist faculty in converting their courses to a Web-based environment.

7. To instruct faculty and students in the use of computer-mediated communication tools.

8. To provide support to faculty and students during the integration of WBI into the curriculum.

9. To evaluate the effect of computer-mediated communication tools on collaborative interaction.

Chapter II: Study of the Problem

Problem Statement

The problem to be solved in this practicum was that students in the MSN Leadership and Post-Master's Case Management distance education program, taught via videoconferencing, did not problem solve collaboratively with students at other sites between videoconferencing sessions. Their interactions were confined to students at the same videoconferencing site.

Problem Description

The design of the MSN Leadership and Post-Master's Case Management distance education curriculum often requires students to work collaboratively to problem solve. Because students in the pilot program were separated geographically at four sites, participants experienced difficulty in project completion when collaborative efforts were required. It was anticipated that when the project expanded to 11 sites that were even more geographically dispersed, this problem would exacerbate. The site expansion was scheduled for August 1997 which, coincidentally, correlated with the initiation of the practicum.

Results of the four-site pilot study indicated that students tended to confine their group project interactions to same-site colleagues, thus, excluding or limiting the diversity of ideas, comments, and questions from students at other sites. Faculty and student interactions were also limited because of the geographic separation.

Students and faculty identified that the problem was not resolved because current communication tools (telephone, facsimile, voice mail, electronic and surface mail) were

inefficient, sometimes costly, unavailable, or did not support timely completion of collaborative work.

Problem Documentation

At the completion of the pilot project that included four videoconferencing sites, the GPD completed a needs assessment to identify ways to improve the program. The results of the survey indicated:

1. Current communication tools were not sufficient to accomplish curricular goals.
2. Many students did not have e-mail accounts.
3. Some students had used Intranet e-mail within their organizations, however, had not used Internet e-mail.
4. Faculty used Intranet e-mail, however many were unskilled in Internet e-mail.
5. Most students were unskilled in Internet exploration via Web browsers.
6. No faculty had developed Web-based instructional courses.
7. Students and faculty had not participated in WBI.
8. No students had used asynchronous electronic conferencing as a method for collaborative problem solving.
9. No students or faculty had used synchronous Internet Relay Chat (IRC) as a collaborative tool.

During an interview, the GPD reported that students confined their group project interactions to colleagues in their same geographic site instead of including members from multiple sites. Students were separated by as much as 90 miles, making it difficult to make personal contact. Primary communication tools with same-site students were personal contact and telephone.

The GPD indicated that faculty demonstrated unwillingness or hesitancy to teach in the distance education program because of their fear of technology, skill deficit in the areas of videoconferencing and computer-supported instruction, and unfamiliarity with communication tools. The GPD also stated that faculty interactions with students between videoconferencing sessions were difficult because existing communication tools did not facilitate efficient interaction. This observation also applied to faculty-faculty, student-student, and student-resource (library, admissions office, etc.) interactions.

Causative Analysis

Effective collaborative work requires shared space to create shared understandings (Schrage, 1990). Geographic distance between videoconferencing sites was a contributing factor that made it difficult for students and faculty to meet between videoconferencing sessions to work collaboratively in problem solving. The four original teleconferencing sites were within 2 hours or less driving distance to the SU, however, students and faculty reported that the distance prohibited face-to-face meetings.

In the fall of 1997, the program expanded from 4 to 11 videoconferencing sites that were scattered throughout the state. When the program expanded, driving to the campus became even more impractical for many students because of increased geographic separation by hundreds of miles, and the inability to effectively collaborate exacerbated.

Faculty and students reported that they did not have adequate communication tools to work effectively in a collaborative manner. Not all faculty or students had access to voice mail, e-mail or a facsimile, and surface mail was often too slow to collaborate effectively. Although all faculty and students had access to a telephone, because of geographic distances involved, many of the calls incurred long distance charges. It was

also difficult for students and faculty to coordinate their busy schedules to allow for telephone conferencing, and no system was easily accessible or identified as cost effective for group telephone conferencing.

The needs assessment also identified that some faculty and students had communication tools available, e.g., e-mail, but they were unskilled in their use. Other respondents expressed attitudes ranging from discomfort to fear of the technology, as potential explanations for non-use of available communication tools.

Relationship of the Problem to the Literature

The writer searched the literature for sources that met the following three criteria: (a) described an academic program offered via interactive multi-site videoconferencing, (b) identified a need to improve communication methods that would encourage collaborative interaction in problem solving, and (c) described the implementation process that lead to enhanced collaboration. Unfortunately, no sources met all criterion. Instead, the literature tended to describe the following: (a) descriptive studies of videoconferencing programs without regard to multi-site issues, (b) the benefits of collaborative learning, or (c) tools available for computer-mediated communication.

Keegan, as cited in Saba and Shearer (1994), corroborated the writer's finding by determining that research in distance education has been primarily program based. He wrote that studies were frequently descriptive in nature and were concerned with evaluating program results in terms of cost-benefit and student achievement as a method for justifying a distance learning modality.

Because the literature did not contain material that met the writer's three identified criteria, parallel literature was reviewed. The writer explored problems identified by other

professionals in the area of collaboration and communication technologies, and examined solutions that were implemented to enhance problem solving.

Schrage, in discussing collaborative learning (1990), posited that most organizations lack collaborative infrastructures that enable employees to share their talents to meet the organization's goals and objectives. Katzenbach and Smith (1993) found that most organizations intrinsically prefer individual versus group or team accountability. In addition, not everyone enjoys or works well in a collaborative environment. Robbins and Finley (1995) suggested that unfilled individual needs or other personal goals may actually impede a team's work.

The literature contained numerous references to situations where communication tools were available but individuals were afraid to use them. Some authors identified this as computer anxiety (Leso & Peck, 1992; Torkzadeh & Angulo, 1992), cyberphobia and technostress (Harrington, 1988), and computerphobia (Kennedy, 1988; Rosen, Sears, & Weil, 1987; Rosen & Weil, 1990; Weil, Rosen, & Wugalter, 1990).

Rosen and Weil (1990) estimated that up to 55% of all college students and business people suffer from computerphobia. Weil et al. (1990) estimated that one third of the general population experiences computerphobia, and Rosen and Weil (1990) suggested that technophobia affects 1/3 of 14 million college students.

Age is a factor that may contribute to fear of computers and technology (Bilderback, 1992; Rosen et al., 1987; Torkzadeh & Angulo, 1992). Rosen et al. (1987), in five studies of over 450 university students, found that older students were more computer anxious than younger students were. Because students in the MSN program were all 30 years of age or older, with 53% of the students ages between 40-49, and 23%

between 50-59, the writer suggests that there may be some correlation with the results of these studies and the behavior of the target group.

Torkzadeh and Angulo (1992) suggested that psychological, sociological, and operational perspectives might be involved in resistance to computer use. They identified that some users were fearful of damaging equipment or would experience bruised egos if they had to request assistance from their subordinates. According to the authors, some users feared being replaced by a machine, and others felt that they were so far behind the technology that they would never be able to catch up. They also reported that operational perspectives affecting computer non-use might be something as simple as the inability of a user to type.

Leso and Peck (1992) identified how an individual's level of "state" and "trait" anxiety are personality components that may affect their fear of computers. They defined state anxiety as a temporary, situational state that may be caused by reaction to a perceived stressful event. Trait anxiety, a more permanent personality characteristic, may be exhibited by the presence of general anxiety and elevated stress. The authors suggested that individuals with stronger personality traits would probably experience more intense elevation of anxiety in situations that they perceived as threatening.

Torkzadeh and Angulo (1992) reviewed the work of several writers who studied how an individual's perception about locus of control, whether internal or external, might contribute to behavior surrounding computer use. They speculated that those individuals who believed they could determine how events affected them might be more comfortable with computers. If that speculation was correct, the writer would infer that those

individuals who believe their success depends on outside influences, i.e., they have little individual control, may experience a greater level of computer anxiety.

Lack of hands-on computer experience may have an effect on anxiety toward computers (Lambert & Lenthall, 1989; Marcoulides, 1988). Torkzadeh and Angulo (1992) identified lack of knowledge as a key point that may cause anxiety for users who know little about computers.

In addition to lack of knowledge about computers, lack of knowledge about distance education as a learning environment may also be a factor to consider when individuals are resistive. Moore and Kearsley (1996) posited that some students do not understand that they must take more responsibility for their learning in a distance education environment than in a traditional setting. Because of large geographic distances involved in the MSN program, the need for students to discover creative solutions that enabled them to work collaboratively in problem solving projects was enhanced. The writer observed that perhaps some did not have the knowledge or the incentive to do so.

Attitude toward technology may affect an individual's use of computers. Zemke, as cited in Torkzadeh and Angulo (1992), suggested that some individuals might perceive that a computer actually makes their life harder instead of easier, because learning to use a computer is not easy. Gressard and Loyd (1986), in their study of 106 college students, found a negative correlation between an attitude toward computers and computer anxiety. Those students who demonstrated higher computer confidence and liking displayed a lower anxiety level toward computers than those with a less confident attitude.

Summary Statement

Collaborative efforts require shared space (Schrage, 1990) in which to work, however, large geographic distances inhibit traditional face-to-face shared space interactions. Although computer-mediated technologies are available to provide this shared space, factors such as anxiety surrounding computers, age, attitude, lack of knowledge, and personality style may affect the use or non-use of these technologies.

Chapter III: Anticipated Outcomes and Evaluation Instruments

Goals and Expectations

It was the writer's goal that students in the MSN in Leadership and Case Management and Post-Master's Case Management Certificate distance education program, taught via videoconferencing, would problem solve collaboratively, as evidenced by collaborative work on papers, projects, and presentations that included individuals from multiple videoconferencing sites.

Expected Outcomes

The following outcomes were projected for this practicum:

1. Each student group working on a collaborative project will contain members from more than one videoconferencing site.

2. Each student and FOR will communicate via the course conferencing system by posting a minimum of one article per week in the online forum of their choice.

3. Each student and FOR will communicate via Internet Relay Chat (IRC) on two or more occasions as a method to complete collaborative projects.

4. Each student and FOR will demonstrate ability to send and receive Internet e-mail.

5. Each student and FOR will use a search engine to locate a topic of their choice and print at least one page from the site.

6. Two FOR will re-design their course curriculum, with the assistance of the writer, to include WBI.

7. Two FOR will publish, with the assistance of the writer, their course syllabus via the Web.

Measurement of Outcomes

To assess if change occurred and outcomes were met, an assessment of each outcome was performed.

Outcome 1: Each student group working on a collaborative project will contain members from more than one videoconferencing site.

Assessment 1: When a collaborative project was presented for evaluation, the writer compared participants to the roster of students registered at each videoconferencing site to ensure inclusion of students from multiple sites in each group.

Outcome 2: Each student and FOR will communicate via the course conferencing system by posting a minimum of one article per week in the online forum of their choice.

Assessment 2: The writer visited each online forum on a weekly basis to examine content. A tally sheet was maintained to track participation.

Outcome 3: Each student and FOR will communicate via IRC on two or more occasions as a method to complete collaborative projects.

Assessment 3: The writer participated in public IRCs as part of the course curriculum to verify student and faculty participation. The writer also accepted reports of IRC participation via e-mail from students and faculty. A tally sheet was maintained with each student and faculty name to track participation.

Outcome 4: Each student and FOR will demonstrate ability to send, receive, and reply to Internet e-mail.

Assessment 4: The writer requested that each student and FOR send an e-mail to him. The writer then sent an e-mail to each student and FOR and requested that the recipient "reply" to the message, including the original text, as documentation of receipt.

Outcome 5: Each student and FOR will use a search engine to locate a topic of their choice and print at least one page from the site.

Assessment 5: Each student and FOR was instructed to post a link and site description to a Uniform Resource Locator (URL) of their choice in the Internet Classroom Assistant. The ability to print a page from a Web site, and an indication of the user's favorite search engine(s) was verified as a task in the "Internet Basics" Tutorial #1.

Outcome 6: Two FOR will re-design their course curriculum, with the assistance of the writer, to include WBI.

Assessment 6: Upon completion of the course re-design, the writer reviewed the course curriculum and syllabus to evaluate if the instructional design was effective for presentation via the Web. The writer examined how various technologies were used to meet instructional goals, identified how the instructor planned to manage the course at a distance, examined what resources were available to students, and looked for continuity in instructional design.

Outcome 7: Two FOR will publish, with the assistance of the writer, their course syllabus via the Web.

Assessment 7: The writer accessed the course syllabus on the Web at the URL provided by the FOR.

Chapter IV: Solution Strategy

Discussion and Evaluation of Solutions

The problem to be solved in this practicum was that students in the MSN Leadership and Post-Master's Case Management distance education program, taught via videoconferencing, did not problem solve collaboratively in between videoconferencing sessions. Their interactions were confined to students at the same site.

Contemporary literature is replete with articles supporting collaboration as a way to achieve goals. Schrage (1990) suggested that individuals generate shared understandings they could not have achieved independently when operating in a collaborative environment. Katzenbach and Smith (1993), in their study of organizational teams, wrote that teams outperform individuals acting alone, especially when performance requires utilization of multiple skills, judgments, and experiences.

According to Johnson and Johnson (1996), it is within cooperative activities that individuals may seek outcomes that are beneficial not only to themselves, but to all other members in the group. Bridges (1994) referred to this as coactivity. He further posited that collaborative proactivity is valuable for participants because each member in the group is able to benefit from the enlarged pool of creativity, skills, information, past experiences, and contacts that are available.

Peters (1987) suggested that the use of self-managing teams might assist in achievement of enhanced focus, task orientation, innovativeness, and commitment. Robbins (1993) noted that participation in teams might gain commitment from members; therefore, making it more likely those decisions will be carried out. Tapscott (1996)

advised that strategies developed collectively have an infinitely higher probability of actually being implemented because collective thinking leads to collective action.

Teams may increase productivity, improve communication, and are able to do work that ordinary groups cannot do, according to Robbins and Finley (1995). The authors continued by suggesting that teams are better able to use resources, are more creative and efficient when solving problems, and are able to make decisions of higher quality.

The next body of literature that provided potential solutions for the problem involved computer-mediated communication. Computers may be used in a variety of ways to assist with communication and, with the rapid advancement of the Internet, to provide new tools for education. Hiltz (1995) described the Virtual Classroom as a means for a collaborative learning environment that exceeded the traditional classroom because the virtual classroom has the ability to connect students and course materials around the clock.

Harasim (1996) observed that when computer learning networks were used, the time, place, and pace of education were expanded. In addition, she noted that learning became more individualized and peer interaction and collaboration were emphasized. In a survey of teachers and learners on the Internet, Harasim found that learner-learner group interactions increased significantly and that the teacher-learner hierarchy was broken down.

The ability to communicate instantly with people from nearly anywhere in the world from a variety of different computer platforms, i.e., UNIX, PC, and Macintosh, has eliminated some previous communication barriers and created others. Grabowski, Suciati,

and Pusch (1990) noted that computer-supported collaborative methodologies enabled the continuation of group exercises or projects from a learner's own home. In essence, one's own home is now a virtual classroom.

The World Wide Web (WWW) is receiving much attention as an instructional tool because of the many features it provides. Khan (1997) suggested that with its use of hypermedia, the Web creates a meaningful learning environment where learning is fostered and supported. The Web also presents an excellent environment for asynchronous collaboration in which students work together but not necessarily at the same time (Polyson, Saltzberg, & Godwin-Jones, 1996). Harasim (1996) noted that the online classroom is always open.

The Web provides opportunity for quicker turnaround of a finished product (Kilby, 1996). This feature may be of advantage when individuals are working collaboratively on a project because communication can occur asynchronously; participants need not be present at the same place or time to communicate. McIsaac and Gunawardena (1997) contended that an advantage of asynchronous computer-mediated communication is its time-independent feature that has the capability to facilitate cooperative group work among learners at a distance.

The ability to work cooperatively while using computer-mediated technology has been the focus of many writers. Johnson and Johnson (1996) suggested that by using technology-assisted cooperative learning, students may be taught how to use technology, increase their level of academic achievement, and give learners control over their learning. In addition, they indicated that learners might achieve enhanced social skills and cognitive development.

Higgins (1996) wrote that online education can help generate meaningfulness through interaction and sharing of knowledge and experience that may be accomplished via learning partnerships and groups. Dede (1996) supported that view by suggesting that computer-supported collaborative learning may enhance team performance because it provides tools that may be used to communicate individual ideas, helps provide structure for group dialogue and decision making, provides a record of rationale used by the group to make choices, and facilitates collective activities.

Desktop conferencing, the ability to communicate from one's own desk with colleagues around the world via the Internet, is receiving much attention. Klemm (1994) posited that desktop conferencing supports collaborative learning by optimizing critical and creative thinking and provides a tool for active and collaborative learning. El-Hai (1996) reported that electronic conferencing allows participants in meetings to exchange ideas and documents without being in the same room or even having to leave their offices.

An enhanced ability to communicate is a key element when computer-mediated tools are involved. Utilization of an integrated telecommunication system, according to Saba and Shearer (1994), may permit a greater variety of transactions to occur which may then improve dialogue between a learner and instructor. Jonassen, Davidson, Collins, Campbell, and Haag (1995) also wrote that discourse communities, groups of individuals who share and discuss their common interests and goals, might be supported through electronic mail, news groups, and computer conferencing.

Polyson (1996) suggested that discussion forums, chat sessions, and e-mail were ways commonly used to add interactive components to Web-based courses. Dewar (1996) posited that setting up online classes allows learners access to information, and

offers opportunity for asynchronous and synchronous communication between other learners and the instructor. Kimball (1995) suggested that a virtual conference may foster a feeling of belonging to a group, and McIsaac and Gunawardena (1997) noted that computer conferencing systems might support group as well as many-to-many communications.

Ellsworth (1994) suggested that computer-based communication is necessary for collaborative learning because it meets a variety of learning styles, overcomes time and space barriers, and may create a feeling of group cohesion among a dispersed group of learners. Jonassen (1995) identified the power of computer conferencing and electronic mail as constructivist learning tools and environments because of their capability to support conversation and collaboration.

McComb (1993) summarized the advantages of electronic conferencing:

1. Asynchronicity. Users don't need to be logged on simultaneously to communicate, therefore, time and distance barriers are decreased. Users are provided an opportunity for reflective and spontaneous interactions.

2. Convenience. The convenience affords increased contact because groups and individuals can work independently as well as collaboratively. It improves access for remote students by decreasing the need for travel.

3. Increased control. The student assumes a larger role in controlling communication. For example, a student can initiate action when they need assistance instead of having to wait until class time. When documents are available online, the student assumes the responsibility for downloading them instead of waiting for distribution from the instructor.

4. Communication is in writing. This encourages critical thinking and organization of communication because the messages may be permanently stored and are available for retrieval. Harasim (1996) noted that because computer-mediated communication is primarily text-based, it allows each participant to work at their own pace and take as long as necessary to read, reflect, write, and revise their responses before sharing questions, insights, or information with others.

5. Efficient access to online course materials. Materials can be posted and accessed at any time.

6. Increased social distance. For those who dislike impromptu speaking or presenting in front of groups, electronic conferencing provides an opportunity for commentary. Students have an opportunity to disagree without having to deal with emotions that may emerge in a face-to-face encounter.

Many educational institutions are using computer-mediated tools to achieve instructional objectives. St. Edwards University has implemented an "educational intranet" to deliver course information and to provide instructional tools. Their inclusion of RealAudio™ provides real-time delivery of audio clips without waiting for download time, and Shockwave™ technology allows for highly interactive sequences to be delivered via the Web (Rosenblum & Healy, 1996).

In summary, computer-mediated tools provide ways for individuals to collaborate with less consideration to time and space barriers. The rapid growth of the Internet and, in particular, the WWW, is providing new opportunities for collaborative problem solving for those individuals who are involved in distance education programs. WBI is an appropriate solution strategy to solve the problem as stated.

Description of Selected Solutions

The writer decided to use the WWW as an instructional and communication tool to solve the following problem: Students and faculty in the MSN Leadership and Post-Master's Case Management distance education program, taught via videoconferencing, do not problem solve collaboratively in between videoconferencing sessions. Their interactions are confined to students at the same site.

WBI was selected because online communication tools can provide an opportunity for problem solving and shared creation between videoconferencing sessions. Khan (1997, pp. 11-18) identified features and components associated with WBI learning environments. The writer has selected portions of Khan's work that are applicable to a collaborative learning environment and will indicate when Khan referenced other authors to support the features that he identified.

1. It facilitates collaborative learning. Khan referenced the work of Relan and Gillani (1997) who suggested that WBI provides a medium for collaboration, conversation, discussions, and idea exchange and communication. Khan cited the work of Harasim et. al. (1997) who posit that sharing of knowledge and resources engages students in higher level thinking skills that promote both active and interactive learning from multiple viewpoints.

2. WBI is interactive. It improves opportunity for faculty-student, student-student, and student-resource interactions. It also provides opportunity for synchronous and asynchronous communication.

3. It uses a multimedial format. Varieties of media can enhance students' learning styles by using text, audio, video, and animation.

4. WBI is an open system. Learners have the freedom to move outside of their environment by taking more control over their learning. Learners who operate within a closed system like a book or CD-ROM are confined to areas that are pre-determined by the instructional designer.

5. WBI is distance, time, and device independent. Students can reside anywhere and participate at any time of the day or night while using the computer platform of their choice. This provides a convenience factor unlike traditional classroom-based instruction.

6. It provides global access to resources. Sophisticated search engines assist in locating Web-based material. Resources can be up-to-the-minute as well as archival.

7. WBI provides a medium for electronic publishing. Khan referenced the works of Bannan and Milheim (1997) who suggested that posting of work on the Web may be used for modeling, discussion, or review and Kearsley (1996) who found that Web publishing is a powerful motivating force that may lead to improved effort and self-esteem.

8. It is learner controlled. WBI permits the learner to influence what is learned, how it is learned, and also the order in which learning occurs (Schwier & Miasanchuk, 1993). Because students are in control of learning content, time, and feedback, they may use a wide range of media for expressing their understandings (Relan & Gillani, 1997).

9. It is authentic. Kearsley (1996) posited that the artificial wall between the classroom and the real world is dissolved.

10. WBI is non-discriminatory. Khan suggested that this type of learning is accessible to users regardless of their location, age, ethnicity, gender, language, or physical limitations.

11. It provides formal and informal environments for collaboration. Examples of this would be formal online presentations or informal chats.

12. Access is controllable. Courses or projects can be password protected.

Specially designed Web course authoring software like Web Course Tool (WebCT) and Web Course in a Box (WCB) is now available to assist faculty with online course development. According to Goldberg, Salari, and Swoboda (1996), WebCT provides an environment that allows educators, with or without technical expertise, to create Web-based courses.

Because WBI was unfamiliar to the MSN faculty, and it was doubtful that many incoming graduate students would have experience in an online learning environment, it was necessary to develop an educational plan that would meet the needs of both groups. The writer designed and implemented a plan to integrate Web-based instruction as a communication tool to support collaborative problem solving into the Nursing Leadership and Case Management MSN curriculum.

The plan began with an analysis of the factors that would influence implementation. The writer examined technical factors that would contribute to a successful outcome. This included a review of available hardware and software at the SU Information Technology (IT) department, an examination of how students and faculty would access those resources, and an exploration of technical support that would be available to faculty, students, and the writer during the implementation phase of the project.

The writer also analyzed the format of existing instructional materials to determine what processes would be required, and what tools would be necessary, to convert these

resources into a distance learning format. Because faculty abilities with WBI would have a significant impact on the outcomes, the writer analyzed learning needs of the faculty who would participate in the project.

Because students had not yet been admitted into this new program, the writer could not assess their current technology skills. However, an inference could be made from a review of skills demonstrated by graduate students who were participants in the pilot project. In addition, a list of entry-level technology skills that were a prerequisite for admission into the program were given to each student at the time they made application. Each student verified to the GPD, at the time of their personal pre-admission interview, that they possessed those skills.

The next stage of the process included designing a structure for implementation. The writer considered available human and technology resources, educational goals, content distribution factors, class management issues, and project maintenance issues in the planning phase. A report of the action taken follows.

Report of Action Taken

Planning Sessions

The first phase of the practicum project involved meeting with the GPD and a representative from the IT department at the SU to discuss the project. The purpose of this session was for the writer and the IT representative to be introduced and to receive an update from the IT department about their level of preparedness for integrating this project into the SU's curriculum. The GPD initiated conversations with the IT department some months prior to inform them of the integration of WBI into the graduate nursing curriculum.

The IT department was advised concerning the projected number of students who would be involved in this program. All students would log on to the SU Web server via their own dial-up account. Each student would use his or her own e-mail account instead of being assigned a SU e-mail address because current IT policy requires that students must apply for an e-mail account only in person. This was not feasible because many of the students lived hundreds of miles from the SU and would not be able to come to the campus.

The writer and the IT representative discussed Web course authoring tools that assist faculty in converting traditional classroom-based courses to WBI. The IT department offered Web Course in a Box (WCB) version 1.0 for this purpose and reported faculty satisfaction. WCB, a product created at Virginia Commonwealth University, allows a faculty member to create instructional Web pages without having to learn hypertext markup language (HTML). It also includes a lesson builder, interactive quiz builder, and discussion forums with file attachments and archiving (MadDuck-Technologies, 1997). Faculty members control student enrollment into WCB courses by entering student names and Social Security numbers either individually or in a batch.

The writer introduced the WebCT (World Wide Web Course Tools) course authoring software to the IT representative. WebCT is more full-featured than WCB and is a product developed in the Department of Computer Science at the University of British Columbia. The Beta version of WebCT contained the following features: (a) course conferencing system (a.k.a. Bulletin Board), (b) electronic mail, (c) chat tool, (d) student self evaluation, (e) searchable image archive, (f) searchable and linkable glossary, (g) student presentation areas, (h) timed online quizzes, (i) progress tracking, etc. (Goldberg,

1997). The writer volunteered to do more research about the two products and bring a recommendation to the IT committee.

During the next month, the writer more closely examined WCB and WebCT to determine which product would better meet the needs of the graduate nursing faculty and the distance learning students. WCB was available at no cost to the SU and WebCT was available at no cost during the Beta trial. When the official version of WebCT was released, the cost would be based upon the number of students who were enrolled in courses. WebCT appeared to offer better online documentation and technical support than WCB and was a more full-featured product.

Because the SU would probably not support two products, the writer explored the availability of Web hosting for WebCT. Many of the local Web hosting services would not consider running Beta software on their servers even though more than 500 colleges and universities were successfully participating in the Beta study. Services that would load the software frequently offered a monthly service fee of $500. After much research, the writer located two organizations that would host the WebCT software for $60/month. Additional costs for student enrollments would be approximately $500-600/year.

The writer presented his findings to the GPD with the recommendation that WebCT should be the software of choice for the graduate nursing program because of its features and ease of use. The GPD took this request to the IT department and was informed that the SU would not provide support for WebCT on its servers. Because of the additional costs involved with WebCT, a decision was made to use WCB as the course authoring tool for the graduate nursing department.

Faculty Instruction

The second phase of the project involved orientation of the graduate nursing faculty to the various technologies that were available to them for instructional purposes. The writer worked as a member of a team that developed and presented a 4-hour workshop with the following objectives:

At the end of the training session, the participants will be able to:

1. Describe basic elements of videoconferencing capabilities
2. Identify equipment utilized by the HMO videoconferencing network
3. State basic elements of conferencing software that includes the use of the WWW and the Internet.
4. Recognize the differences for class preparation and class presentation in distance learning locations versus on-campus sites.
5. State how to access distance learning technology resources
6. Recognize available personnel within the SU and HMO organizations who will be available for further assistance after the workshop.

The workshop focused on videoconferencing because this was the primary medium used for instruction. Faculty had expressed concern to the GPD about not having adequate knowledge to feel comfortable using videoconferencing for teaching. In response, the GPD was available for in-class assistance during the first eight weeks of each semester when a faculty member who was inexperienced with videoconferencing began teaching. The addition of WBI did not seem so overwhelming to faculty, possibly because it was viewed as an adjunct instructional tool or because they had less exposure to this instructional medium and were unaware of what knowledge deficits they had.

The workshop was offered via videoconferencing to provide an opportunity for the faculty to experience the technology first-hand. The 4-hour evening workshop was broadcast to four sites dispersed throughout the state and faculty participated at a site that was closest to their home or work location.

A representative from the HMO audiovisual department introduced videoconferencing technology to the faculty. He showed a map of the statewide broadcast network, explained how broadcasts originated from the northern hub and were downlinked to other sites, and discussed how sites could be connected to allow participants at multiple sites to work collaboratively on projects.

The representative then explained the various pieces of equipment that were available for instructors to use during videoconferencing. He explained that each videoconferencing room has a control box that enables participants to control the panning and zooming motions of the local camera, and to mute the microphones.

The tabletop microphones are voice-sensitive and will activate the camera. When two or more sites are connected during a video teleconference, activation of the microphone also activates the camera at that site and a picture of the participants will appear in the viewing televisions of the corresponding sites. Each site is able to view a picture of the last site where someone has spoken and also the image of themselves that is broadcasting to the other sites.

All videoconferencing rooms have a graphics camera. Although a graphics camera is similar in concept to an overhead projector, it has the capability to display objects in two and three dimensions. For example, an instructor can place two-dimensional printed

materials like charts or graphs on the display surface, or use a three-dimensional object like an apple and the viewers will be able to see the object's depth.

Some of the videoconferencing rooms are equipped with computer jacks that are tied into the broadcast hub. This allows an instructor to broadcast PowerPoint or other graphical presentations. Instructors can also prepare and mail a videotape to the northern hub with instructions to the audiovisual technicians to broadcast the tape at a pre-arranged time. One final resource available to instructors is an easel and pad. When the instructor zooms the camera onto the pad, viewers can clearly see the content.

Prior to the practical phase of the workshop, the audiovisual representative and GPD discussed types of clothing that are preferable for enhanced viewing and items to avoid. The GPD also explained how he effectively manages multiple sites to keep all of the students involved in the learning process.

The faculty were then divided into small groups and given an assignment to develop a brief presentation that met two criteria: (a) include the use of the graphics camera, and (b) encourage participation by "students" at multiple sites. Someone who was familiar with videoconferencing was available at each of the four sites to consult with the faculty as they prepared their mini-presentations. The presentations were effective in quickly providing an overview for using videoconferencing as an instructional tool because all participants were able to experience the role of instructor as well as student.

The next section of the workshop focused on WBI as a method to support videoconferencing. Because few faculty members had experience with the Web, the writer demonstrated Web "surfing" via a live connection to the Internet. From a lap top computer at the northern hub videoconferencing broadcast center, the writer showed the

faculty how to use a Web browser, and demonstrated how to use a "search engine" to find sites of interest on the Web. He showed an online conference, live chat, and how course syllabi and student work could be posted to the Web for easy access. This presentation was pre-recorded and video taped so faculty could observe the use of video during instruction via videoconferencing.

After the demonstration, the writer discussed the availability and advantages of various tools and features in WBI (see Figure 4) that could be utilized to support videoconferencing in instruction.

Tools and Features	Advantages
Course syllabus & assignments online	• Students access via Web browser • Instructor can easily update or modify
Electronic mail (e-mail)	• Allows one-to-one message transfer • Address Books - send same message to many • Attachments can be used to send longer documents
Chat	• Allows real-time communication among participants • Session can be "logged" for future reference • URLs can be shared in Netscape Chat • Could be used for virtual "office hours"
Online conferencing (a.k.a. Bulletin Board)	• Allows communication among all participants • Can be accessed any time • Frequently Asked Questions (FAQs)
Student presentation areas	• Display course projects, student work, newsletters
Evaluation capability	• Multiple-choice questions with answers available • Timed online quizzes

Figure 4. WBI supports videoconferencing.

There are many tools and features available in WBI that have advantage for instruction. The writer informed the faculty that he has applied many of the features during his doctoral work in distance education, e.g., in the "student presentation areas," he showed a paper that he had written and posted on the Web for his instructor to evaluate. The faculty then discussed ways that they could use these instructional methods in their courses.

Classroom-based instruction requires conversion to a distance education format to work effectively when students are not geographically present in the same classroom. The Event-Oriented Design (EOD) model (Welsh, 1997) is an effective tool that is available to guide faculty during this process. The model has five steps:

1. Specify instructional goals and performance objectives.

2. Sequence performance objectives and chunk them into a series of instructional modules.

3. Divide each module into series of instructional events.

4. For each event, classify into "full synchronous," "limited synchronous," or "asynchronous."

5. For each event, specify appropriate technologies to enable successful completion.

The writer explained the differences between synchronous and asynchronous instruction in relationship to distance education and gave examples of each type. He then discussed the material included in Figure 5 based upon the technologies that the faculty would have available.

Process	Example
Specify instructional goals and performance objectives	• Needs assessment • Follow instructional design methods • Does inclusion of technologies provide new opportunities for outcomes?
Sequence performance objectives & chunk into series of instructional modules	• Introduction – module – conclusion • 15 minute chunks are ideal (video) • Consider delivery methods - be creative Lecture, team teaching, celebrity guest, panel discussion, group work sessions, case study, role play, demonstration, story telling
Divide each module into series of instructional events	• Learner: Reads Writes attends presentation works on assignments

(figure continues)

Classify each event into "full synchronous," "limited synchronous," or "asynchronous"	• Synchronous - entire class & instructor video conference chat • Limited synchronous - 2 or more class members discussion or work groups • Asynchronous – independent study Online conferences
Specify appropriate technologies for each event	• Videoconferencing • Computer supported e-mail chat online conferencing Web posting

Figure 5. EOD model applied.

The faculty workshop ended with a Question and Answer session. A printed roster that contained contact information for individuals within the HMO and SU who could assist with technologic issues was distributed.

Course Conversion Consulting

The next phase of the practicum process involved assisting two FOR to convert the first two courses in the Leadership and Management curriculum from a traditional

classroom-based model to a distance education format. The topics of the first two courses were: (a) Nursing Theories: Nursing as a Social Knowledge, and (b) Health Care Delivery and Finance. The EOD model was used to assist with course planning and WCB was used as a course authoring tool.

One of the FOR had recently completed a workshop in Claris Home Page that was offered by the SU. Because a workshop activity included initial development of a course for online delivery, she was able to use that material within WCB. The writer assisted the other FOR in converting existing material into HTML format. The writer consulted with both faculty members concerning tips and techniques to make WBI more effective and was available by e-mail and in person when questions arose during the conversion process, and throughout the semester.

Providing technical support to faculty in constructing a Web-based classroom to support videoconferencing was important because, as McCormack and Jones (1998) have identified, this is not a straightforward task and requires knowledge in the areas of technical and educational principles. According to the authors, "this is a combination that very few educators have" (p. xi).

Student Interviews and Orientation

The GPD individually interviewed prospective students for the program since the combined format of videoconferencing and WBI was being used for the first time. This provided an opportunity for faculty and students to discuss the distance learning component of the curriculum.

Students had been notified in written pre-application materials that they needed to meet the following criteria prior to acceptance into the program: (a) have a computer

with Internet access available seven days per week, (b) have an active account with an Internet Service Provider (ISP), (c) have a non-work e-mail address which was a request from the HMO, (d) have completed a basic computer course with a general understanding of their computer's operating system, and (e) have experience using a Web browser. All students indicated to the interviewers that they met these basic criteria.

While the course conversions were in process and students were being admitted into the program, the writer prepared an introductory presentation for students regarding WBI. The focus of this 30-minute presentation was two-fold: (a) to introduce students to WCB, and (b) for the writer to share personal experiences concerning his life as a distance education student that might be beneficial to the students who were experiencing this learning environment for the first time.

The GPD invited the writer to be a guest during the second videoconference class. During the WBI presentation, the writer presented the various features of WCB and explained how each feature of the software would be used to meet course requirements. For example, he showed where the course syllabus was located, explained how "forums" or conferencing areas would be used, discussed how the internal e-mail system worked, indicated where the course calendar and announcements could be found, and informed the class where student presentations would be posted.

The writer also shared his personal experiences as a distance learner. As a full-time doctoral student in a distance learning program, he discussed the advantages of having access to instructors and colleagues via e-mail and the benefit of being able to contribute to discussions or online projects at any hour of the day or night. He presented the advantage of being able to post assignments to the Web and avoid "snail mail," and

explained how easy it was to locate written and human resources on the Internet. He also emphasized how one must be a self-directed, independent learner to reap the most benefit from the program.

During the presentation the writer informed the students about his practicum objectives which were designed to assist them in developing skills that would enhance their ability to work collaboratively with effectiveness and efficiency while separated geographically. He explained that his role would be one of tutor and coach, and support to the 45 students would be provided via the technologies that they would be learning, e.g., e-mail, online conferencing and chats, and via documents published on the Web.

Implementation Difficulties

Unfortunately, numerous difficulties were experienced during the first week when WBI was integrated into the curriculum. A brief summarization follows:

1. Some students had not completed the course pre-requisites and did not have an ISP or an e-mail address. Therefore, it was impossible for the instructors and tutor to communicate important information to them.

2. Some students had not submitted all of their registration documentation to the SU by the deadline date. Because the student's full name and Social Security number were part of this missing paperwork, the instructors were unable to add these students to WCB courses because the WCB course registration process required this information for enrollment as a way to prevent duplicate enrollment. Entering "dummy" data and editing later was not a feasible solution. Therefore, faculty experienced the additional work of late registrations, and students who did not have proper materials on file were unable to access the course and fell behind.

3. The most important difficulty, however, was the inability of students and faculty to access the two WCB courses because of repeated Web server failure at the SU. "Time out" and "DNS" error messages were frequently received at critical times—often on the weekend when students had set aside time to do academic work. Because this happened during the first weeks of the semester, students were unable to access the syllabus and post their work; thus, the FOR had to repeatedly re-adjust assignment due dates.

When the Web server crashed on the weekend, repair work often did not begin until the following Monday because skilled technicians and administrative staff were off duty during the weekend. SU student employees who staffed the IT "Help Desk" reported that no IT administrator was officially "on call" to assist them with equipment failure.

When the problem with course access was investigated, the IT department informed the GPD that access problems were due to students' ISPs and that the problem appeared to be isolated to only the students enrolled in these two courses. It was soon discovered that the problem was not ISP related, that difficulty with access was wide-spread, and that numerous other off-campus students and faculty members who were attempting to use WCB for their classes were experiencing similar problems.

After several weeks of frequent conversations and meetings involving the GPD, the FOR, School Dean, IT Director, Webmistress, and others, the problem of consistently reliable Web server access for students and faculty persisted. In addition, an upgrade to WCB caused some features of existing courses to malfunction and the writer was unable to successfully restore the courses.

Because students were unable to complete course requirements due to accessibility issues, the contract between the SU and HMO was threatened and stress levels among students and FOR soared. Reliable Web server access could not be guaranteed, and concern that students would drop out of the program mounted. Therefore, the GPD decided to move the courses to privately leased Web space.

Response to Implementation Difficulties

Course Transfer to Private Web Server

The writer responded to the implementation difficulties by transferring the course content to a private Web server. Because WCB was not available on the new Web server, and the course transfer needed to happen immediately to enable students and faculty to progress with their course work, the writer assumed the responsibility for course conversion. Although the writer had published academic papers on the Web, he had not created an entire Web site from "scratch" that could accommodate two courses without the benefit of a course authoring tool. The learning curve was steep and required nearly around-the-clock work but was accomplished within approximately 48 hours. Because of the urgency in getting course materials available for students and faculty, the writer developed the site on personal Web space that was part of his ISP account.

The conversion was complex because it involved more than transferring existing materials from one server to another. The design and development of an entire site infrastructure that could accommodate existing course components that were different between the two courses, and remain within the skill set of the writer who would become the unofficial Webmaster for the project, required critical thought and planning. Methods to incorporate threaded online discussions, e-mail distribution lists, access to course

materials, and a place for students to post their work required careful consideration and exploration of available resources. This was necessary because those components of the course designs were either not easily accessible within the available time frame, were cost prohibitive, required special software to be loaded on a Web server, or were outside the scope of the writer's immediate capability.

It was crucial for the writer to design a delivery method that would offer a high level of reliability and be accessible to students with a variety of different computers. In addition, easy navigability for users was of prime concern because many students were novices in using the WWW. Because they had not yet developed familiarity with typical Web site navigation styles, many students had limited prior knowledge to transfer to the new environment.

Instructors familiar with WBI frequently report that students prefer a consistent "look and feel" across courses, therefore the writer attempted to model the new site home page and course access pages after the WCB format. The course entry pages included 7 major sections that were available as graphical icons and text. Sections were: (a) course information, (b) assignments, (c) announcements/updates, (d) students, (e) forums, (f) chat, and (g) "mailto:" links that would open a pre-addressed e-mail form to the FOR or the writer (see Appendix A). Both course entry pages utilized the same format to provide consistency between courses.

During the time when the new site was being launched, the writer's ISP was experiencing rapid growth and was in the process of adding new equipment. Unfortunately, this occasionally caused unreliable service. The writer searched for an alternate Web hosting service and found Hiway Technologies (http://www.hway.net).

Hiway is one of the world's largest Web hosting services and hosts over 90,000 domains. Because of its size, Hiway has multiple backbones to the Internet, the very latest in equipment with immediate back up support, 24-hour technical support, daily tape backup, and a guarantee of 99.5% up time. Upon the writer's recommendation, the GPD contracted with Hiway Technologies for Web space and an application was made to the Internic for the graduate nursing program's own domain name.

The writer re-designed the graduate nursing program's home page, restructured the site, transferred course data to the new Web server, and advised students of the new site via e-mail. Accessibility of course material on the Hiway server has been excellent.

Implementation of the Internet Classroom Assistant

To provide a course conferencing tool (a.k.a. "forum" in WCB, or "threaded discussion" in other software), and a place where students could post their work, the writer decided to use the Internet Classroom Assistant (ICA) as an adjunct to Web postings. The ICA is course authoring software that is offered free to educators and students and is sponsored by Nicenet (http://www.nicenet.net). Nicenet is an organization of professionals that donate their time to provide the education community with communication tools and resources that were previously available only to those with large sums of money or substantial technical expertise (Nicenet, 1998).

The ICA runs on Nicenet's server and requires only a Web browser operating on any platform. Because the ICA software operates on Nicenet's Web server, there is no software to download and server configuration is unnecessary. The ICA does not require knowledge of HTML, a welcomed feature for many users.

After accessing the Web via an individual's own ISP, password-protected courses are entered via the Nicenet home page. All ICA classrooms contain the following fully-integrated features: (a) conferencing, (b) scheduling, (c) document sharing, (d) personal messaging, and (e) link sharing (see Appendix B). Each feature will be discussed briefly.

1. Conferencing. The instructor and/or students can create private, threaded conferencing topics to which students and faculty post responses asynchronously. The instructor determines who has authority to post new conferencing topics when the ICA class is created.

2. Scheduling. The class schedule is posted here and can include assignments or other class events. A 7-day advance view is provided each time the student enters the class home page and provides a reminder of upcoming assignments and events.

3. Document sharing. Instructors and students can publish their documents using simple Web-based forms. Content may be typed directly into the forms or entered from an existing document in a user's favorite word processing program by using copy-paste commands. No knowledge of HTML is needed because the ICA automatically performs the conversion. The document sharing feature is integrated with scheduling, therefore, it allows students to easily turn in assignments online.

4. Personal messaging. This feature is similar to traditional e-mail. Because it is fully integrated with document sharing and conferencing, users may easily send personal messages to the creator of posted documents or conferencing comments. Messages can remain within the ICA's internal e-mail system or be automatically forwarded to the user's designated e-mail account. This provides an easy way for faculty and students to give each other feedback about published work.

5. Link sharing. Instructors or students can create topics to which links of interest may be posted. An individual contributes the (URL) and then has an opportunity to describe the significance of the site. For example, if the topic were "Course Authoring Software," the writer could post this link <http://www.nicenet.net>. The accompanying description might be, "The Internet Classroom Assistant (ICA) is a free Web-based course authoring tool that is available to educators who are looking for an easy way to establish an online learning environment." The instructor determines who has authorization to create links, i.e., instructor only, or instructor and students, when the ICA class is created and can modify this preference at any time.

Setting up a class on the ICA is easy and takes only a couple minutes. A unique class "key" is assigned for each course and provides password protection for the class. This key may be distributed to anyone who needs access to the class and the creator of the class can delete any user who may have gained unauthorized access.

The ICA operates on donated Web server space. When the writer originally set up the first two graduate nursing classes, Nicenet used Web server space that was donated by a midwestern university. The server was monitored during business hours only; thus, technical support was not always immediately available when difficulties occurred. When the Web server malfunctioned during evening and weekend hours, the SU students and faculty often were unable to access their classes until technicians arrived. On weekends, this sometimes meant a 2-3 day delay. Since that time, Nicenet has transferred the ICA to a Web hosting company that is donating space. This server is monitored closely, technical support is more readily available, and reliability of access has greatly improved.

The ICA creators continue to add features to the product and are very responsive to users' suggestions. The ICA is now in its second release (ICA2) and additional enhancements are being developed. The writer and a colleague voluntarily wrote a Web-based tutorial for the ICA2 as a contribution to Nicenet's mission to bring communication tools to the education community.

To help students and faculty learn to use the ICA without the fear of making errors in their formal ICA classrooms, the writer created an ICA class entitled the "Playground." Instructions for using the ICA were provided in a brief tutorial that the writer created and posted to the Web. The tutorial was designed to provide an opportunity for students and faculty to use each of the ICA features while completing a series of tasks. Participants were encouraged to be "playful" during their exploration to enhance the learning process.

Student Skill Deficits Identified

Within the first month of the semester, it became very apparent that many students did not have the requisite computer skills to enable them to work in an online environment even though they claimed to possess these skills during their pre-admission interviews. Many students did not understand computer terminology, e.g., clipboard, ISP, URL, link, etc., and did not understand basic concepts about the operating systems of their computers. In addition, many were unable to perform basic tasks in common software applications, e.g., copy and paste between two documents, locate files in directories, and save files in a different format, e.g., rtf. Some students did not have sufficient knowledge to use their e-mail program effectively and required the writer's support to establish user preferences and settings that would enable the software to perform properly.

The combination of technologic difficulties that initially hampered or prevented access to online course work, and the students' lack of sufficient computer skills, resulted in high anxiety levels. During the first month of the semester, the writer received and responded to more than 500 e-mails regarding these issues. Student comments about dropping out of the program began to surface.

Intervention to Remedy Skill Deficits

It became very apparent to the writer and the FOR that students needed technologic support to enable them to be successful in this online environment. Although it was not part of the original practicum proposal, the writer determined that a series of tutorials, coupled with online technical support by the writer, might provide students with the skills they needed.

Tutorials

The writer quickly developed a series of five tutorials to provide the students and faculty with basic skills that would be useful to "survive" in an online academic environment. The tutorials were developed using Netscape Gold's editor and Netscape Composer. Some pieces were written in Microsoft Word and then translated into HTML format with Word's Internet Assistant.

Each tutorial contained a series of tasks that students were to perform to provide "hands on" experience with skills that would be needed for their online academic work. As the writer completed each new tutorial, an e-mail announcement with the tutorial's URL and password was sent to the students. All tutorials were self-paced and the amount of time it took to complete a tutorial was dependent upon the computer and Internet skills that the students already possessed. Although students were strongly encouraged to

complete the tutorials, the FOR could not make them mandatory because the tutorials were not an advertised portion of the curriculum when students registered for the course.

The content for each tutorial and its rationale will be presented briefly:

1. The first tutorial focused on the Internet Classroom Assistant (ICA). The ICA is the course authoring software that the FOR used to provide an electronic Web-based classroom for their students. Because students had a previous negative experience with WCB due to server and software problems, and because the writer had determined that students needed technologic support, the writer determined that enhancing student knowledge of the ICA should be the first area of study. The ICA "Playground," as discussed earlier, allowed the students to practice navigating through the ICA to locate sample assignments, post their responses in student presentation areas, and to experience the various features of the ICA classroom.

Some of the instructions for using the ICA were found in a document posted on the Web and others were embedded in the ICA itself. Students experienced the following processes: (a) registering for an initial and a subsequent ICA class and how to move between the classes, (b) how to initiate new and respond to existing conferencing topics, (c) how post a new or convert an existing document in the student presentation area, (d) how to add a link and provide an annotation in the "link sharing" section, and (e) how to use the ICA internal e-mail.

2. The topic of the second tutorial (see Appendix C) was "Internet Basics" and was selected because most students had limited experience and skill in using the Web, particularly for academic and collaborative purposes. The task-oriented design of this module required students to navigate the Web with guidance and perform the following:

(a) define common Internet and Web terminology, (b) explore features of the student's preferred Web browser, (c) use multiple search engines to find information and compare the results, (d) download free software and execute the program, (e) print information from a Web site, and (f) create and organize bookmarks within their browser.

3. The third tutorial (see Appendix D) focused on e-mail since this was a primary communication tool. Tutorial tasks included: (a) sending an e-mail 1:1 and 1:many, (b) replying to an e-mail (to sender and to all), (c) creating an address book that included members of the class, (d) configuring Netscape Navigator Gold e-mail, (e) using a listserv, (f) sending and receiving attachments, and (g) organizing received messages into folders. Netscape Gold e-mail was chosen as demonstration software because it was available for PC and Macintosh platforms and was available at no cost to the students via download from Netscape (http://www.netscape.com).

Students used a variety of e-mail software and often didn't understand how to set user preferences within the program to enhance its proper operation. Because the e-mail software was not standardized among students, this tutorial required a significant amount of support from the writer.

Helping students to successfully transmit and receive e-mail attachments was the biggest challenge. Students who used AOL as their ISP experienced the most difficulty because the proprietary e-mail program did not follow conventional encoding and decoding procedures in reference to attachments. The transmission problems of attachments involving AOL were never resolved—even after numerous AOL technical support interactions by the students and the writer, library and current literature research, and hours of experimentation.

Because e-mail communication was critical for collaboration, and because e-mail attachments are an efficient way to share work, the writer made the recommendation that any student who was using AOL as their primary provider should make alternative arrangements for e-mail. It should be noted that students who had AOL accounts were also experiencing other problems accessing Java-enabled features at some Web sites that prevented completion of assignments. This access problem that seemed to affect only AOL users was never completely resolved, required an inordinate amount of tutorial support, and became a source of frustration for students, colleagues, faculty, and the writer. Therefore, the decision to avoid AOL was supported by the FOR and GPD.

Students who used AOL were informed that technical support would no longer be offered for AOL-related problems. Interestingly, some students still retained their AOL accounts even though they complained that they were unable to read important attachments that were sent by the FOR and their colleagues. Students who entered the program in the second semester were advised in pre-admission documents that AOL would not be supported. Students who did not heed that advice and began the program with AOL accounts quickly experienced communication difficulties.

4. The fourth tutorial (see Appendix E), "Web Publishing," was included to provide students an alternative way to post their work for faculty and colleagues to access and critique. Netscape Gold was used as the HTML editor and was selected for the following reasons: (a) it was available cross-platform (Macintosh and PC), (b) it required only 8 megs. of RAM which accommodated many of the students who were using older, less powerful computers, (c) it was available free via download for students, and (d) it provided a "standard" application that the writer could support. Some students preferred

to use Composer which is Netscape's newer software. That was permitted, however, the writer was not able to provide technical support.

Instructions for completing the Web Publishing tutorial were posted to the Web. The task-based tutorial included: (a) an introduction to basic web page design, (b) how to create a new document within the Netscape Gold editor, (c) how to convert an existing document into HTML format, (d) how to do a FTP (file transfer protocol) to post the document to the Web, and (e) considerations for maintaining a directory on the Web.

Less than 25% of the students completed this tutorial. Because the tutorials were optional and students were heavily involved in other academic projects, it is thought that this tutorial did not receive attention. Perhaps students did not see the value in posting to the Web since they were able to post documents through the ICA. The FTP portion seemed to be the most difficult component for some students even though "screen shots" were provided in the tutorial. This may be related to the level of understanding students brought to the tutorial in regard to how directories and files are manipulated.

Students who completed the tutorial posted interesting documents. Several students worked together to publish their group assignments to the Web. One group that developed a business plan as a class assignment set up a Web site to announce their new business. Another student posted a poem that she had written.

5. Online chat was the topic of the fifth tutorial (see Appendix F) and contained two parts: (a) instructions for using Volano Chat, and (b) instructions for downloading and using Netscape Chat 2.0.

This tutorial was developed after prior experimentation with using a public chat site, "Talk City." Talk City (http://www.talkcity.com) is a free commercial service that

provides public chats on almost any topic imaginable. It is also possible to arrange private, password-protected chat rooms that are accessible from links on a Web site. To provide students with chat space, the writer worked with Talk City representatives and established private rooms that were accessible from a link on the graduate nursing Web site.

Although many students were able to successfully access the private Talk City chat rooms, students who were using AOL were often unsuccessful. Numerous hours were spent helping students adjust settings, update their AOL software, and in multiple interactions with Talk City technicians, however, 100% access was never achieved and the project was aborted. For a chat system to be successful, it must be accessible to all participants.

When the graduate nursing site was moved to a new Web hosting service, "Volano Chat" was available as a basic feature for all of the host's accounts. Volano Chat software is accessed via a user's Java-enabled Web browser and provides a way for students and faculty to meet in a synchronous environment. Although the chats are not private, they are not easily accessible to the public because the Volano link is placed on the graduate nursing site. The software does not have a transcript feature that allows a conversation to be recorded, however, some students saved conversations by using copy/paste commands.

Volano Chat can be used effectively by small groups that need to be present at the same time to make decisions. In the world of computer-mediated communication, this is referred to as "synchronous" communication. Volano Chat was available on a "drop in" basis and was sometimes pre-scheduled by student work groups. Students gave the product favorable comments.

One FOR used Volano Chat effectively to provide virtual office hours. Students pre-scheduled appointment times with the FOR and sent their questions to him for review at least 24 hours prior to the meeting time. This accelerated the response to the questions that were discussed during the Volano Chat. All participants in a Volano Chat session are listed, so users are aware of who is in the room with them. Two participants can go into a "private" chat, if desired.

The second part of the online chat tutorial involved the use of Netscape Chat, version 2.0. This software has three features that are unavailable in Volano Chat: (a) it provides password-protected "private" chat rooms, (b) a transcript of the chat can be saved, and (c) a leader is able to take participants on an Internet tour by sharing URLs. For example, an instructor can prepare a presentation, e.g., PowerPoint slide show or a series of Web pages, to use for discussion prior to the chat. During the chat, the instructor enters the URL into a special field that instructs the software to simultaneously take all of the participants in the chat room to that site. This feature is not available in most chat software.

Netscape Chat 2.0 is no longer commercially available so arrangements were made with Nova Southeastern University for students to FTP the software from their site. Several of the Macintosh users experienced difficulty in the FTP process, however, it appeared to be related to their individual computers or user technique rather than the software. This part of the tutorial was very time-intensive for the writer who provided technologic support to the students.

The writer held three Netscape Chat practice sessions to provide students with "hands on" experience in using the various features of the product. For example, he

guided them through saving a transcript of the chat, instructed them in the technique of "whispering" which enabled 1:1 private conversations, and demonstrated how one can lead participants to URLs. Students reported appreciation for the practice sessions, however, only about 25% of the students took advantage of the opportunity.

In an unofficial review of tutorial #5, it appears that Volano Chat is sufficient to meet the needs of students in the current program and that the advanced features of Netscape Chat, although valuable, were unnecessary to accomplish students' academic objectives.

In summary, the tutorials were very effective in providing students with the skills necessary to work successfully and collaboratively in an online environment. Many positive comments were received from students and the FOR and the amount of technical support that they needed decreased as the tutorials were completed.

Chapter V: Results

Results

Forty-five graduate students are enrolled in a MSN Leadership and Post-Master's Case Management distance education program that is taught via videoconferencing. These students attend class at any of 11 videoconferencing centers that are scattered throughout a large western state. Students select their preferred videoconferencing location based upon proximity to their home or work place.

The design of the curriculum often requires students and faculty to work collaboratively to problem solve. Because students are separated geographically, often by great distances, the GPD and FOR observed that students tended to confine their group project interactions to same-site colleagues, thus, excluding or limiting the diversity of ideas, comments, and questions from students at other sites. Faculty and student interactions were also limited because of the geographic separation. Students and faculty identified that current communication tools (telephone, facsimile, voice mail, electronic and surface mail) were inefficient, sometimes costly, unavailable, or did not support timely completion of collaborative work.

The writer's goal was that students in the MSN in Leadership and Case Management and Post-Master's Case Management Certificate distance education program, taught via videoconferencing, would problem solve collaboratively, as evidenced by collaborative work on papers, projects, and presentations that included individuals from multiple videoconferencing sites.

The strategy used to achieve this goal was to integrate WBI into the curriculum as a method for facilitating collaborative learning. WBI is an effective tool because it is distance, time, and device independent (Khan, 1997) and it provides a medium for collaboration, conversation, discussions, idea exchange, and communication (Relan & Gillani, 1997).

Each of the seven anticipated outcomes projected for the practicum will be re-stated, the success of the outcome will be declared, and the results will be shared.

1. Each student group working on a collaborative project will contain members from more than one videoconferencing site.

This outcome was met.

Nine of 11 student groups that worked on collaborative projects contained members from four videoconferencing sites. Faculty comments that student work "far exceeded their expectations" were not uncommon.

2. Each student and FOR will communicate via the course conferencing system by posting a minimum of one article per week in the online forum of their choice.

This outcome was not met.

All students posted a response in an online conference; however, frequency was less than one per week. This was due in part to the curricular design that did not always require a weekly posting, and due also to the fact that classroom guidelines did not provide directions for the frequency of posting content to an online conference.

3. Each student and FOR will communicate via IRC on two or more occasions as a method to complete collaborative projects.

This outcome was met.

Students used Volano Chat as a tool to complete their collaborative projects and the FOR held virtual office hours via Volano Chat.

4. Each student and FOR will demonstrate ability to send and receive Internet e-mail.

This outcome was met.

All 47 students and the two FOR involved in the practicum demonstrated the ability to send and receive Internet e-mail 1:1 and 1:many and use the address book feature of their e-mail software.

5. Each student and FOR will use a search engine to locate a topic of their choice and print at least one page from the site.

This outcome was met.

All 47 students and the two FOR involved in the practicum used multiple search engines and were able to print information from preferred sites.

6. Two FOR will re-design their course curriculum, with the assistance of the writer, to include WBI.

This outcome was met.

Two courses, Nursing Theories: Nursing as a Social Knowledge, and Health Care Delivery and Finance were re-designed to include WBI.

7. Two FOR will publish, with the assistance of the writer, their course syllabus on the Web.

This outcome was met.

The syllabus for each of the two converted courses was posted on the web. As evidence of a successful outcome, the Web posting for a Financial Management course syllabus is included (see Appendix G).

Discussion

Integration of WBI into the graduate nursing curriculum was a resounding success. Students were able to work collaboratively with members from multiple videoconferencing sites on group projects and reported that they appreciated the ability to participate asynchronously. WBI also enhanced faculty and student collaboration because the FOR were able: (a) to respond to students' questions quickly via e-mail, (b) to take advantage of providing supplemental instruction via online conferencing between videoconferences, and (c) to meet for virtual office hours, often during the evening or on weekends, via online chat.

Student Survey

A doctoral student from a local university who was studying learner and instructional predictors of student satisfaction for his dissertation surveyed this group of graduate students during the 14th week following their entry into the program. In reference to taking a course taught via the Internet, DeBourgh (1998) reported that students cited satisfaction with the following:

1. They were able to work at their own pace whenever time permitted, and at any hour.

2. The course format was convenient and enabled them to work from any location that had computer Internet access.

These two responses correlate positively with key features of WBI as reported in contemporary distance education literature. Because WBI is distance, time, and device independent, students can reside anywhere and participate at any time of the day or night while using the computer platform of their choice (Khan, 1997; McComb, 1993). The students' satisfaction with being able to work at their own pace positively correlated with Harasim's (1996) findings.

3. Work could be submitted and retrieved electronically.

McComb (1993) also reported this advantage in her writings in reference to electronic conferencing and controlling communication.

4. Access to student colleagues and the FOR was easy between class sessions.

The ability to easily collaborate via e-mail and online conferencing support the findings of Ellsworth (1994) and Jonassen (1995) in their study of collaborative learning.

5. They appreciated the ability to learn from experienced colleagues and liked the enhanced access to vast and diverse learning resources.

The work of Higgins (1996) supported this viewpoint because he found that online education could generate meaningfulness through interaction and sharing of knowledge and experiences.

6. They identified that their computer skills improved which, in turn, enhanced their performance on the job.

7. They found that written feedback from the instructor and other students was clearer and more timely than verbal responses.

This finding was consistent with Harasim's (1996) observations that because communication was text-based and asynchronous, each participant had time to work at

their own pace and take as long as necessary to read, reflect, write, and revise their responses before sharing questions, insights, or information with others (1996).

DeBourgh (1998) surveyed the SU graduate students about things they would like to change or improve about taking a course taught via the Internet. Students responded:

1. Graded materials should be returned more promptly and a more prompt response to e-mail by instructors would be ideal.

Interestingly, this did not correlate with a rating of "good" to "very good" given by 79% of the students when they were surveyed about the promptness of materials exchange among students and faculty.

2. More tutorial sessions and training in basic Internet skills were desired at the start of the course since students entered at differing levels of ability. They felt that the learning curve was too sharp.

At the time of the survey, students had completed two or three of the tutorials; however, based upon a needs assessment of the students' skills, additional tutorials were concurrently under development. All tutorials were developed and available at the beginning of the second semester and students who entered the program at that time were instructed to complete the tutorials within the first 5 weeks of the course. The FOR delayed other course assignments during that period to allow students an opportunity to develop technologic skills that would enable them to successfully complete the computer-mediated portions of their collaborative work.

Boston (1992) posits that the need for technical support and training for participants in technology-mediated distance education courses is important for distance education initiatives to succeed. His findings were supported by this particular group of

graduate nursing students and 72% of the students rated support for the Internet component of the program to be "good" to "very good" (DeBourgh, 1998). One should again take into consideration that many students were continuing to have technical difficulty at the time of the survey—some due to Web server equipment failure and others due to malfunction of personal computer equipment or lack of user skill.

To encourage all students to complete the tutorials and to elevate students' technology skills to a more even performance level, the GPD has determined that the tutorials will be required for the next incoming group of students. One hour of graduate credit will be awarded for successful completion of all modules. Because students will receive credit, it is likely that participation will be enhanced and, as students gain more technical skills, they will have additional ways to work collaboratively in a distance learning environment.

3. Standardization for the location, times, and for posting of assignments in the course conferencing area was important.

The FOR and the writer discovered that students did not consistently read their e-mail in a timely manner and did not routinely access the course URLs to identify the presence of new information. In response, FOR are now providing students with specific communication guidelines as a part of course operating procedures. These may include, but are not limited to, the turn around time and schedule for faculty response to e-mail, expectations for accessing the course URL to identify new submissions, and guidelines for informing students of new time-sensitive postings.

4. Unreliability of the Web servers, students' inability to reliably electronically connect, and to decrease "time outs" during online time were identified as important considerations for change.

At the time of the survey, students were still experiencing technical difficulties as reported earlier in this paper. Since that time, the course has been moved to a more reliable server and, according to informal reports from students and FOR, reliability and access have markedly improved.

5. Standardization of computer server compatibility, platforms, and Web browsers that their colleagues used would be beneficial.

The survey was taken at a time when many of the students were attempting to collaborate via e-mail attachments and were experiencing difficulty due to incompatible e-mail software protocols, incompatible word processing software, and operating system issues, e.g., Macintosh and PC. Unfortunately, standardization was not possible during the course of the semester although the writer made every attempt to suggest cost effective and reasonable modifications that would enhance performance. For example, AOL users were advised to convert to a standard ISP, Microsoft Word was recommended as a preferred word processing program, and Netscape Gold or Communicator were suggested for e-mail programs. These modifications were often effective in reducing problems among users.

6. More opportunity for synchronous Internet sessions and additional online group work was desirable.

At the time students were surveyed, they were being introduced to Volano Chat and had not yet used Netscape Chat. Volano Chat offers a synchronous online

environment for collaborative work and work groups have recently begun effectively using this feature to communicate. The FOR have also found Volano Chat to be a valuable tool for holding online office hours.

Technology Support

Because of the technologic difficulties that were encountered at the beginning of the program, and because many students did not enter the program with requisite skills that had been identified, the writer had to assume a role much different than originally planned. He took on a leadership role in communicating with IT personnel, moved and restructured the course twice on different Web servers, acted as the Webmaster, and assumed the role of tutor. It has been suggested that the program would have failed without this intervention.

The need for one person to "take the lead" is not uncommon in WBI. McCormack and Jones (1998, p. xi) report that "very few institutions will provide the time, support, training, recognition and infrastructure necessary to implement a Web-based classroom." This coincides with the writer's finding during conversations with faculty from numerous colleges and universities who are implementing WBI into their curriculum. McCormack and Jones further noted that it is common for institutions to have barely enough technical support staff for existing operations and the addition of a technology-intensive program such as WBI may be too much for the existing infrastructure and staff.

The amount of time and effort it took for the writer to support the program, especially in its initial stages, was enormous. Because other human and technologic resources were not readily available, the writer assumed the responsibility for seeking and designing solutions for problems that occurred. This sometimes required the writer to

quickly learn new skills to enable him to respond to the needs. Because the faculty and students' ability to complete their work was affected by improperly operating systems, quick resolution for any problem was paramount and added a level of intensity to the writer's responsibility.

The writer's primary form of technologic support was via e-mail, updates that were posted on the Web, practice online chats, and occasional telephone calls. It was not uncommon for the writer to receive 20 or more e-mails per day during the beginning of the semester and many required a complex response or multiple transactions to achieve resolution. Fortunately, this number decreased significantly as the students completed the five tutorials and enhanced their technologic skills. Some of the technical support that the writer provided dealt with students who were learning to operate their computers and, although these questions were not directly course-related, they had a bearing on the student's ability to perform the requirements of the course. Establishing a better way to verify requisite skills prior to admission would be of benefit.

Because the writer was frequently on the Internet to complete his own doctoral work in distance education, he checked e-mail multiple times in a day and was able to provide rapid responses to the students' questions. The writer's eagerness to provide support to the students to help them succeed in the program, and to enhance the outcome of his practicum contributed to his feeling of being "on call" 24 hours a day, 7 days a week.

The writer would suggest that the creation of scheduled e-mail response times would provide a greater sense of freedom for the faculty or technical support person and enhance course structure for the students, e.g., establish a policy that e-mail will be

answered every Monday, Wednesday, and Friday morning. A potential benefit of this policy is that students may rely more upon their own resources if they have missed an e-mail response day and will need to wait a couple days for a reply. Knowing that the tutor will always respond within a matter of hours, as happened during the practicum, may contribute to a perception of dependency upon the faculty instead of encouraging student self-reliance.

In campus-based classes, students are often able to enlist technical assistance from a computer lab assistant when problems occur. It is also common for on-campus students to seek the assistance of a technologically-savvy classmate who will go to their dormitory room or home to help resolve a problem. Unfortunately, these resources are not as easily accessible to most students in a distance learning environment.

One of the most cited advantages of distance education is the ability for students and faculty to complete academic work without regard to time. In other words, it is possible, and probable, that some students will make their contribution to an online conference or submit a completed document for review at 3:00 a.m. This has, in fact, been the writer's personal experience as he completed requirements for his doctoral program in distance education. The Monday through Friday, daytime only class schedule has become a thing of the past for distance learners.

When technical problems occur at 3 a.m., who does one call for help? The who, what, when, where, and how of technical support for students who may have selected a distance education program primarily because of its lack of a temporal boundary becomes an interesting topic for consideration. Must distance education students incur long

distance costs for contacting a campus-based help desk? Is support available during evening and weekend hours?

It would be ideal to have a toll free and e-mail accessible technology "Help Line" that operates 7 days per week around-the-clock for student and faculty support. This availability of 24-hour support is precisely the reason the writer chose his ISP and recently selected and purchased certain brands of desktop and laptop computer equipment for his personal use. Perhaps distance education students will some day be afforded that same consideration when selecting a class or academic program. An institution that is attempting to attract distance learners would be wise to provide these resources.

Other Technology Considerations

Listservs are an efficient way to send e-mail to multiple subscribers of a mailing list. The SU provides this service for faculty and students, however, the creation of the list is tied to the university's e-mail VAX accounts. To obtain a VAX account, current policy requires that students appear in person at the IT office as a way to verify identity. This was not possible for many of the students involved in the MSN distance education program. In addition, access to VAX accounts is currently only available by direct telephone dial-up; therefore, use of a university e-mail account would involve long distance telephone charges students for those who lived outside of the local calling area. The e-mail system is currently being upgraded to an Internet-based system that will allow access from any properly equipped computer.

Because of accessibility issues with university e-mail accounts, the graduate students were advised to have their own e-mail account. Group mailings were accomplished through an "address book" that each student and faculty member created in

their e-mail software. Although the "group" mailing via an address book provided an effective way to communicate with colleagues, it was inefficient. Whenever a student changed their e-mail address, it required each of their classmates, the FOR, and the writer to make changes in their e-mail program. Additionally, since many of the students and faculty worked from multiple locations, e.g., office and home, and on multiple computers, e.g., office, home, laptop, and on "guest" computers while traveling, this caused additional effort and, sometimes even confusion, in keeping all of the sources updated. Updating a listserv would have required only one intervention and would have immediately taken effect for all users.

The writer explored other alternatives for providing a listserv for students and faculty that would be cost-effective and maintain participant privacy. A free listserv offered by Coollist (http://www.coollist.com) was located, however, because one of the students had an apostrophe in her work e-mail address, the listserv would not accommodate this address. This solution was, therefore, not feasible because all users' address could not be included in the list. Students and faculty continued to send group mailings via their e-mail program address book.

Conclusion

The integration of WBI to support collaboration in the graduate nursing program taught via multi-point interactive videoconferencing was very successful. Students and faculty were able to communicate in a variety of ways and could complete their academic activities in the locations and times that were most convenient to them. The tools that WBI provided were instrumental in helping students submit collaborative work that faculty often identified as far exceeding their expectations. For example, three students

who were geographically separated were able to collaboratively produce a business plan for their Financial Planning class (see Appendix H.) Identifying information has been removed to protect the anonymity of this project.

Instruction via the Web is still in its infancy (McCormack, 1998) and organizations are learning how to provide requisite services to support this form of education. Although preliminary discussions with IT personnel at the SU determined that sufficient resources were available, upon implementation of the practicum it quickly became apparent that a sufficient infrastructure, support systems, and administrative procedures were not present within the SU to achieve the desired practicum outcomes without making major adjustments. In addition, many students who were admitted to the program did not have sufficient computer skills to complete their online course work, even though they verified that they met technology prerequisites at the time of their admitting interview.

The writer assumed a leadership role in restructuring the online portion of the MSN curriculum to accommodate this situation. The Web-based classrooms were moved to private, leased Web server space and a series of five tutorials were developed to help students learn the computer technology skills that were necessary to successfully complete online academic work. The writer also acted as the students' resource for technology support throughout the project. This combination of interventions contributed to a successful outcome for the writer's practicum and, more importantly, allowed students and faculty to utilize new tools for successful collaboration.

Recommendations

1. Prior to implementation of a WBI project, closely analyze the factors that will influence the project, e.g., (a) the outside world, (b) the course, (c) students, (d)

educators, and (e) technical factors. McCormack and Jones (1998) provide guidelines for an investigation surrounding those topics. A thorough analysis will help to identify hurdles as well as areas of support for the project.

2. Provide faculty with a comprehensive software course authoring tool, e.g., ICA2 or WebCT, to use for designing a Web-based classroom. This will provide a standard, consistent environment for faculty and students and will potentially enhance the level of support provided by technical consultants since their resources can be focused on one product.

3. Provide applicants with a check off list of basic computer skills that students should be proficient in prior to admission and develop a way to verify these skills. This may help decrease some of the technical support questions that required a significant amount of time.

4. Arrange availability of around-the-clock Web server and technical support. This will enhance reliability of student and faculty access to course work.

5. Provide a series of tutorials that contain opportunities to learn and practice skills that will be needed to perform effectively in an academic online environment. Make the tutorials available as soon as a student enrolls in the program, set a short completion date, and provide academic credit for completion. This will assist the students to quickly develop skills needed to complete their academic projects.

6. Encourage faculty to complete the tutorials. This will provide them with the same skills students are required to have and will help them be better able to design Web-based classrooms.

7. Encourage faculty to utilize all available Web-based tools in their curriculum design and to include these, whenever possible, at the beginning of the course. This will encourage students to immediately experience and develop proficiency with the multiple facets of WBI and will contribute to meeting the needs of students with varying learning styles.

8. When new faculty are to be hired, recruit applicants with technology skill and teaching experience in distance education. Prior expertise may be valuable in supporting existing programs, developing new ones, and may decrease the learning curve required to achieve comfort with technology-supported education.

Dissemination

To disseminate the practicum results among professional colleagues, the writer plans to write and contribute articles to professional publications for publication. Potential journals include: the American Journal of Distance Education, the Journal of Computers in Nursing, the Journal of Nursing Administration, the Journal of Nursing Staff Development, and the Online Chronicle of Distance Education and Communication.

The writer will respond to Call for Papers announcements in regard to WBI and plans to make presentations at professional conferences.

References

Bannan, B., & Milheim, W. (1997). Existing Web-based instruction courses and their design. In B. Khan (Ed.), Web-based instruction (pp. 381-388). Englewood Cliffs, NJ: Educational Technology Publications.

Bilderback, T. L. (1992). The personal touch eases anxiety of adult students. The Vocational Education Journal, 67(6), 34-35.

Boston, R. L. (1992). Remote delivery of instruction via the PC and modem: What have we learned? The American Journal of Distance Education, 6(3), 45-57.

Bridges, W. (1994). Job shift: How to prosper in a workplace without jobs. Reading, MA: Addison-Wesley.

DeBourgh, G. (1998). Learner and instructional predictors of student satisfaction in a graduate nursing program taught via interactive video teleconferencing and World Wide Web/Internet. Unpublished doctoral dissertation, University of San Francisco, San Francisco.

Dede, C. (1996). Emerging technologies in distance education for business. Journal of Education for Business, 71(03/01/96), 197.

Dewar, T. (1996). Adult learning online. [On-line]. Available: http://www.cybercorp.net/~tammy/lo/oned2.html.

El-Hai, J. (1996). Are meetings obsolete? Training, 33(7), 96.

Ellsworth, J. (1994). Education on the internet. Indianapolis, IN: Sams Publishing.

Goldberg, M. (1997). Information you'll need to know before using WebCT. [Online]. Available: http://homebrew1.cs.ubc.ca/webct/introduction.html.

Goldberg, M., Salari, S., & Swoboda, P. (1996). World Wide Web course tool: An environment for building WWW-based courses. Computer Networks and ISDN Systems. [Online]. Available: http://homebrew1.cs.ubc.ca/webct/papers/p29/index.html.

Grabowski, B., Suciati, & Pusch, W. (1990). Social and intellectual value of computer-mediated communications in a graduate community. Educational and Training Technology International, 27(3), 276-283.

Gressard, C. P., & Loyd, B. H. (1986). The nature and correlates of computer anxiety in college students. Journal of Human Behavior and Learning, 3(2), 28-33.

Harasim, L., Calvert, T., & Groeneboer, C. (1997). Virtual U: A web-based system to support collaborative learning. In B. Khan (Ed.), Web-based instruction. Englewood Cliffs, NJ: Educational Technology Publications.

Harasim, L., Hiltz, S. R., Teles, L., & Turoff, M. (1996). Learning networks: A field guide to teaching and learning online. Cambridge, MA: The MIT Press.

Harrington, K. (1988). Computer anxiety: A clout on the horizon of technological interventions. Organization Development Journal, 6(3), 51-55.

Higgins, R. (1996). Online teaching and facilitating cooperative learning. [Online]. Available: http://www.cybercorp.net/gymv/bulla/b_v01n03.html.

Hiltz, S. R. (1995). Teaching in a virtual classroom. [Online]. Available: http://www.njit.edu/njIT/Department/CCCC/VC/Papers/Teaching.html.

Johnson, D., & Johnson, R. (1996). Cooperation and the use of technology. In D. Jonassen (Ed.), Handbook of research for educational communications and technology (pp. 1017-1044). New York: Macmillan Library Reference USA.

Jonassen, D., Davidson, M., Collins, M., Campbell, J., & Haag, B. (1995). Constructivism and computer-mediated communication in distance education. The American Journal of Distance Education, 9(2), 7-26.

Katzenbach, J., & Smith, D. (1993). The wisdom of teams. New York: Harper Business.

Kearsley, G. (1996). The World Wide Web: Global access to education. Educational Technology Review, 5(Winter), 26-30.

Kennedy, C. E. I. (1988). Computerphobia. School Counselor, 35(March), 297-8.

Khan, B. (1997). Web-based instruction (WBI): What is it and why is it? In B. Khan (Ed.), Web-based instruction. Englewood Cliffs, NJ: Educational Technology Publications.

Kilby, T. (1996). WBT advantages & disadvantages. [Online]. Available: http://www.clark.net/pub/nractive/alt3.html.

Kimball, L. (1995). Ten ways to make online learning groups work. Educational Leadership, 53(10/01/95), 54.

Klemm, W. (1994). Teaching via networked PCs: What's the best medium? T H E Journal, 22(10/01/94), 95.

Lambert, M. E., & Lenthall, G. (1989). Effects of psychology courseware use on computer anxiety in students. Computers in Human Behavior, 5, 207-214.

Leso, T., & Peck, K. L. (1992). Computer anxiety and different types of computer courses. Journal of Educational Computing Research, 8, 469-478.

MadDuck-Technologies. (1997). Web course in a box: Why choose WCB? [Online]. Available: http://www.madduck.com/webinfo/why_web.html.

Marcoulides, G. A. (1988). The relationship between computer anxiety and computer achievement. Journal of Educational Computing Research, 4(2), 151-158.

McComb, M. (1993). Augmenting a group discussion course with computer-mediated communication in a small college setting. Interpersonal Computing and Technology: An Electronic Journal for the 21st Century, 1(3).

McCormack, C., & Jones, D. (1998). Building a web-based education system. New York: Wiley Computer Publishing.

McIsaac, M., & Gunawardena, C. (1997). Distance education. In D. Jonassen (Ed.), Handbook of research for educational communications and technology (pp. 403-437). Englewood Cliffs, NJ: Macmillan Library Reference USA.

Moore, M., & Kearsley, G. (1996). Distance education: A systems view. Belmont, CA: Wadsworth Publishing Company.

Nicenet. (1998). Nicenet releases a new Internet classroom assistant. [Online]. Available: http://www.nicenet.net.

Peters, T. (1987). Thriving on chaos. New York: Harper & Row.

Polyson, S., Saltzberg, S., & Godwin-Jones, R. (1996). A practical guide to teaching with the World Wide Web. [Online]. Available: http://www.umuc.edu/iuc/cmc96/papers/poly-p2.html.

Relan, A., & Gillani, B. (1997). Web-based instruction and the traditional classroom: Similarities and differences. In B. Khan (Ed.), Web-based instruction. Englewood Cliffs, NJ: Educational Technology Publications.

Robbins, H., & Finley, M. (1995). Why teams don't work. Princeton, NJ: Pacesetter Books.

Robbins, S. (1993). Organizational behavior: Concepts, controversies, and applications. Englewood Cliffs, NJ: Prentice Hall.

Rosen, L. D., Sears, D. C., & Weil, M. M. (1987). Computerphobia. Behavior Research Methods, Instruments, & Computers, 19(2), 167-179.

Rosen, L. D., & Weil, M. M. (1990). Computers, classroom instruction, and the computerphobic university student. Collegiate Microcomputer, 8, 275-283.

Rosenblum, J., & Healy, E. (1996). Developing an educational intranet. [Online]. Available: http://www.umuc.edu/iuc/cmc96/papers/jason-p.html.

Saba, F., & Shearer, R. (1994). Verifying key theoretical concepts in a dynamic model of distance education. The American Journal of Distance Education, 8(1), 36-59.

Schrage, M. (1990). Shared minds. New York: Random House, Inc.

Schwier, R. A., & Miasanchuk, E. R. (1993). Interactive multimedia instruction. Englewood Cliffs, NJ: Educational Technology Publications.

Tapscott, D. (1996). The digital economy. New York: McGraw-Hill.

Torkzadeh, G., & Angulo, I. E. (1992). The concept and correlates of computer anxiety. Behaviour and Information Technology, 11, 99-108.

Weil, M. M., Rosen, L. D., & Wugalter, S. E. (1990). The etiology of computerphobia. Computers in Human Behavior, 6, 361-369.

Welsh, T. (1997). An event-oriented design model for Web-based instruction. In B. Khan (Ed.), Web-based instruction (pp. 159-165). Englewood Cliffs, NJ: Educational Technology Publications.

Appendix A

Course Home Page

Appendix A Course Home Page

N502 Nursing Theories: Nursing as Social Science

Dr. ____

Course Info. | Assignments | Announcements | Students | Forums | Chat

Course Information

Assignments, etc.

Announcements/Updates

Students

Forums

Chat

Appendix B

Nicenet

NICENET **Internet Classroom Assistant**

Bob Geibert Monday, June 15, 1998 8:05PM PST

N515 Financial Mgmt.

Conferencing

Link Sharing

Documents

Class Schedule

Class Roster

Personal Messages:
View | Send

Options/Tools

Enter New Class:
N515 Financial Mgmt.

Change Class

PROTECT YOUR PRIVACY:
LOG OUT

Home - N515 Financial Mgmt.

Since you last logged in on Wednesday, May 27 :

- No new personal messages have been sent to you
  [View Messages | Send a Message]

Conferencing

- No new comments have been posted under any topics.
  [View Topics | New Topic | New Message]

Link Sharing

- No new links have been posted
  [View Links | New Link]

WEEK AT A GLANCE
[View Schedule | New Event | New Assignment]

ONGOING

- **Formulas**
  [Edit | Delete]

Nicenet provides this forum free of charge and makes no warranty for the Internet Classroom Assistant. Information on this site is generated by the users. The views expressed are not necessarily those of Nicenet or its members, and Nicenet is not responsible for user's conduct on the Internet Classroom Assistant.

Bug reports should be directed to webmaster *a* nicenet net
Questions should be directed to questions *a* nicenet net

BEST COPY AVAILABLE

Appendix C.

Internet Basics

Tutorial #1

Internet Basics

by Bob Geibert, R.N., M.Ed.

This tutorial is designed to provide a hands-on introduction to the Internet. It is the first in a series of 5 tutorials that will help you develop the basic skills that are necessary to work effectively in a distance learning environment. There are many wonderful books, online references, and special interest groups that can help you learn about your computer and answer other technical questions that you may have.

The topic of this first tutorial is "Internet Basics" and includes the following components:

- Internet and World Wide Web (WWW) terminology
- Using a browser
- Bookmarks
- Search engines
- Downloading, saving, and printing information from the Internet

Many people have published helpful information on this topic that we can take advantage of. Jennifer Freeman, an Instructional Designer at McLennan Community College in Waco, Texas, has given me permission to use her course "Education on the Internet-Internet Basics" with you and I have selected portions that I think will be pertinent to your work.

Be advised that this tutorial may take up to five hours of time for those of you who begin with minimal Internet skills.

****To introduce you to a variety of resources, you will do a lot of "surfing" and it will be necessary to follow specific instructions. Therefore, I suggest that you *print out these instructions and follow them closely.***

---

1. Go to Jennifer's module "Education on the Internet - Internet Basics" and print it out after the document has fully downloaded. The document will be approximately

10 pages in length and I will refer to specific locations in the document which are easier to find in a printed format.

2. With the "Education on the Internet" document active in your browser, go to the **"Before you begin"** section and click on the *"Using an On-Line Course"* link. Read the material found at that URL. As she states at the end of the document's page, click on your browser's "back" button to get back to the course module.

3. In the **"Before you begin"** section, click on the *"Click here for information on how to use Netscape Navigator"* link. At the end of the page, follow her instructions by clicking on your browser's "back" button. Note: Although that link describes Netscape Navigator, the concepts covered are pertinent for Microsoft's Internet Explorer browser, too.

4. In the **"Before you begin"** section, click on the *"Click here for information on file management"* link. Become familiar with that information. At the bottom of the page, click on the "Back to Internet Basics" link.

5. Read the information about printing Web pages. If a site is particularly long and you only want a specified page (this works in the ICA, too), click on File/Print Preview. Then use your page up/page down keys to see how many pages are in the document and locate the content you want to print. You can then select those specific pages by using your usual File/Print command. Be aware that clicking on the printer icon in your browser will print out the entire document. NOTE: The Print Preview function is only available in Netscape.

Assignment: Using the print preview procedure, locate page 2 in the "Education on the Internet" course and print that page. Remember, a print preview feature is not available in Internet Explorer.

6. After returning to the "Education on the Internet" course, skip the Table of Contents and scroll down to the **"Introduction"** section. Read the paragraph that begins "The World Wide Web...." Click on the link *"What is hypertext"* Use your browser's "back" button to return. Click on the link *"What is a URL?"* Use your browser's "back" button to return.

7. Read "When you find information on the Web..."
Read "Printing a web page"
Read "Copying and Pasting"

Now, let's practice doing some copying and pasting. Go to an Internet site of your choice and copy some text into a word processing document. Save the file. (You can delete it when you complete the tutorial.)

8. Return to the "Education on the Internet" document and read **"Downloading a file"**

Click on the "*Yahoo's Surf School 'Downloading 101'*" and read the article by Jeremiah Dine.

9. Now you are going to download a program from the Internet that you will use for tutorial #3. Because the next tutorial doesn't happen for a couple weeks, you have plenty of time and may wish to return to this assignment later. Downloading is not difficult but can be anxiety producing when it is your first time. Perhaps you can invite a friend over and complete the process together. Once you learn to download a file from the Internet, you will repeat this process often so it's an important skill to master.

Identify an empty directory or folder where you will want the file to be placed. You may need to refer to a computer manual for instructions on creating directories/folders.

Your assignment is to download the most recent version of *Netscape Gold* that is appropriate for your computer and its operating system. The Macintosh version is 3.02). Software can be downloaded from the Netscape home page. You may wish to read the Netscape Installation document before proceeding. **NOTE**: If you are already using Netscape Gold or Netscape Communicator, it is suggested that you practice downloading an alternate file. Select one from a choice of thousands at http://www.download.com.

When you are ready to download Netscape Gold, go to the Netscape home page and follow these instructions:

- Click on the word "Download" in the top menu.
- Scroll down to "Previously Released Navigators"
- Click on "Gold Edition"
- Click on the "Next" button
- Using the drop down boxes, select your operating system
- Select the desired language
- Select the desired version
- Scroll down and click on "Download for Free" button
- Enter directory/folder where you want the download file to be saved Remember this location
- Click on save. Note, this may take 30 minutes or more to download. Doing it at "off peak" hours will speed the transmission.
- After the transmission is complete, you will need to close your browser and any other applications that are open. Find the Netscape Gold file that you downloaded (it will end in the letters .exe). Double click on that file to "execute" it. The computer will then "unzip" the file and will ask you questions along the way. Generally, it is suggested to accept the default choices that the software suggests.

Note: Netscape Gold has been chosen because it will be used in subsequent

tutorials. It also does not require as much memory as some more recent Netscape or Internet Explorer versions. We will use Netscape Gold to practice e-mail, address books, and web page publishing. It is ok to have Netscape and Internet Explorer running on the same computer.

Now that you have Netscape loaded and executed, close it for now.

10. Return to the Education on the Internet document. Scroll down to the section **"Web Terms"** and click on the *"Yahoo's Internet Vocabulary"* link. Spend some time exploring. Another excellent site is the Internet Glossary. From the information you find at these sites, and from any other source you may find, be prepared to define the following terms when they are used in a discussion about distance learning.:

- ASCII
- Asynchronous
- Bookmark (also known as "Favorite")
- Chat
- Discussion group
- Download
- E-mail
- FAQ
- Flame
- Frame
- FTP
- History list
- Home page
- HTML
- HTTP
- Hyperlink
- ISP
- Listserv
- Lurking
- Mailing list
- Modem
- Netetiquette
- Online conference (aka "Forum")
- Platform
- Search engine
- Server
- Signature
- Synchronous
- Thread
- URL
- World Wide Web (WWW)

11. Go back to the "Education on the Internet" course and scroll to the **"Researching the 'Net (Using Search Engines)"** section. You will note that there are many Search Engines listed that can help you find information. Be aware that these are only some of the many that are available. Hotbot is one that I often use and is known for its speed (as well as neon colors). You might also like Webcrawler. Spend some time browsing because each engine operates a little differently.

To help organize your exploration, I would recommend the following:

Go to the CEO Express site and locate the *"Internet Search"* section. Click on the *"Which search engine should I use?"* link. That will provide some good guidelines for you. You may wish to print out the guidelines for future reference.

Then, select a topic of interest and see what you can find. Try at least 3 different search engines to see how the results vary.

12. Once again, return to the "Education on the Internet" course. Scroll down to the **"Examples of Educational Resources on the Internet"** section. Click on the link *"A Guide to Online Education"* and read the article. The author, Greg Kearsley, is one of my professors.

13. Go back to the "Education on the Internet" course and go to the "Assignment" that is located under the **"Instructional and Educational Resources"** section. Complete the assignment as written. I would suggest using either the *"World Lecture Hall"* or the *"WWWDEV Member Courses"* links.

14. Mailing lists are ways to send and receive e-mail on particular topics. There are thousands of lists on every imaginable topic. Some lists are very busy and others are not. I would suggest going to the *"Liszt"* link first and reading the *"Tips for Newcomers"* and *"What are Mailing Lists"* prior to subscribing. Then, complete the "Assignment" as written in the Education on the Internet course regarding subscribing to a mailing list. Remember to keep instructions you receive from the mailing list robot when you register. It will contain information about how you can cancel your subscription, if desired.

15. The final component of the "Education on the Internet" course is to complete the quick quiz. It can be found by clicking on the link at the end of the course that says *"Click here for a quick quiz to test yourself."* This is an example of online evaluation-a relatively new technology.

*You may wish to send Jennifer Freeman a quick thank you note for sharing her tutorial with us. Her e-mail address is available via a link at the end of her course or by clicking here. Identify yourself as a graduate nursing student so she will recognize how you found her course.

16. Using bookmarks (called "Favorites" in Internet Explorer) is a nifty way to save Web sites that you want to visit again. For the purpose of this tutorial, you are going to use your browser's "online help" files to learn how to add a bookmark to your collection. Be aware that there is often more than one way to save a bookmark.

Did you know that you can refer to a "history" of the URLs you have recently visited? That helps you return quickly to a site that you browsed maybe 5-10 minutes ago without having to click on your browser's "back" button again and again. Use your online tutorial to learn how to access your history.

Now that you know how to add a bookmark (or favorite), your files will get very cluttered after awhile. Your final assignment is to use your browser's online help feature to learn how to organize your bookmarks (favorites). Then, DO IT! It's very similar to organizing a filing cabinet drawer.

17. When you have completed all 17 steps of the tutorial, the final task is to send an e-mail to Bob with the following information:

1. A statement (only if true, of course): I have successfully completed all 17 steps in Tutorial #2.
2. List the 3 components of the tutorial that were most helpful for you and explain why.
3. Identify which, if any, of the components were difficult for you to complete. Describe why and identify what would have made this/these component(s) easier to complete.
4. List any suggestions (e.g., content, format, clarity of instructions, etc.) for improving the tutorial to benefit future students.

Note: Successful completion of all 17 steps of the tutorial is required to receive credit for this tutorial. Your comments/suggestions will not have any bearing on your grade.

Congratulations, you have completed Tutorial #2. You're well on your way to developing the skills necessary to work online in a distance learning environment!

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Revised 1/6/98

Appendix D

E-mail

Tutorial #3

E-mail

by Bob Geibert, R.N., M.Ed.

The focus of the third tutorial is e-mail communication. As you are aware, there are many different e-mail programs on the market. Some are independent programs, e.g., Eudora or Pegasus, others are integrated within your browser, e.g., Netscape or Internet Explorer, and the third type is proprietary, e.g. AOL's mail program. Because technology rapidly changes, there are often many versions available for each product.

Providing technical support for all of these products becomes an overwhelming task. Some universities and organizations require everyone to use specific software to help provide consistency. Because each of you is already successfully using an e-mail program, my suggestion is to complete the tutorial using your current e-mail program.

If you run into difficulty (potentially in the "Attachments" module), then I would suggest converting to an e-mail program that is contained in your Netscape or Internet Explorer browser. Many online references are available to help you configure your browser's e-mail component, and you are probably already familiar with specific e-mail guidelines that your ISP provided. In addition, all major bookstores have shelves full of "How to" books to assist you.

Objectives:

At the completion of this tutorial you will be able to:

- Demonstrate e-mail basics
- Send an e-mail (1:1 and 1:many)
- Reply to e-mail (to sender or to all recipients)
- Create and use an address book
- Organize your mail
- Send and receive an attachment

E-mail Basics:

Learnthenet has a nice e-mail tutorial.

Take a few minutes to browse through the following sections: Don't worry--the topics are brief.

How it Works
Anatomy of an E-mail Address
Understanding E-mail Addresses
Smileys
How Private is your E-mail?

The "Mailing Lists" topic is optional and the "Attaching Files" section will be reviewed later.

Bob's E-mail Tips & Techniques

E-mail addresses: Unlike URLs, e-mail addresses are generally NOT case sensitive. For example, if you saw this e-mail address on a business card (Bgeibert@JPS.net), the message would arrive just fine if you used *all lowercase* letters, e.g., bgeibert@jps.net. In fact, it's probably easier to use all lower case letters when typing.

Sending to multiple recipients: When using the "To" field, place a comma between each e-mail address. For example:
bgeibert@ ,glcrow@ @aol.com

Carbon copy: You can also send copies of the message by using the carbon copy (CC) field. This will be printed out in the e-mail header so recipients can see to whom a carbon was sent.

Blind Carbon Copy (BCC). You can send blind carbon copies of a message. The recipients of the message will not be able to see to whom blind carbon copies were sent. They will only be able to read the names in the "To" and "CC" fields.

Sending an e-mail to a group of recipients without showing everyone's name or address in the header. Netscape has developed a nice support document.

Replying to an e-mail. This is easily accomplished by clicking on the "reply" icon. Be careful, though, when you are replying to a message that has been sent to multiple recipients (look at the "To" and "CC" fields.) You have the option of

replying to only the originator of the message OR to everyone who received the message.

Font size: Some of the newer e-mail programs allow you to include HTML code, fancy fonts, and a variety of sizes in the text. Keep in mind that not all recipients will be able to successfully read your creative work. Therefore, it is suggested that you stick to a 10 or 12 point pitch and either Times New Roman or Courier fonts. Also, make sure to set your preferences section to a default of 80 characters or less per line. Otherwise, the reader will have to scroll left and right to be able to read your document.

Including an URL: Newer e-mail programs can read URLs that are included in the text. The reader can double-click on the URL (which becomes a link in the e-mail) and the browser will open and go to the site included in the e-mail. It's a good idea to include the < > symbols before and after to help the program recognize the URL. For example: <http://www. .bgeibert/N502>

Sending a Web page: Some e-mail programs, particularly those that are integrated into a browser, will let you send a Web page. If the recipient is using a browser e-mail program, the page will open and appear just as if the recipient had gone to the URL.

Subject lines: Use a descriptive subject line. This is particularly helpful for the recipient who receives many messages.

WRITING IN ALL CAPS: Writing an entire message in all caps is considered to be a no-no in the computer world because it is perceived as "yelling." Plus, it is more difficult to read multiple lines of text written in all caps. Using a capitalized word or two for emphasis is fine, however.

Signature: You can add a personalized "signature" to your e-mail. No, this is not your name in cursive script. It is merely information that you want automatically added to the end of your e-mail, e.g., work place, title, phone/fax number, etc. Some people choose to have a signature added and others do not.

OPTIONAL ASSIGNMENT:

- **Use your e-mail program's online help documentation to learn how to add a personalized "signature" to your e-mail documents. If you DO decide to complete this optional activity, send an e-mail to a classmate that contains your new signature. Ask them to send a reply to let you know that it worked. You can always delete or change the signature at any time. Feel free to contact me if you are having difficulty.**

Filing e-mail messages: Just like your "Bookmarks," your in-box will quickly become full. A simple filing system will help reduce the clutter.

ASSIGNMENT:

- **Use your e-mail program's Online Help documentation to set up a filing system for your in-box that is meaningful for you.**

ADDRESS BOOK: Using an electronic "Address Book" makes sending e-mail much easier-particularly when you are frequently writing to the same people. You can make an entry for a single recipient or for a group distribution, e.g., N502. Refer to your e-mail program's online documentation for instructions about setting up an address book.

ASSIGNMENT:

- **Develop an address book entry for all students/faculty in your class. You may wish to refer to the class roster. (Please make sure you include me (Bob) in this listing because I will be using your test e-mail to document completion of this assignment.)**
- **Using your address book, send a "test" e-mail to everyone in the class. If you get messages that are non-deliverable, it will help you determine if you made a typo in your address book entry. Electronic e-mail requires perfection in spelling of addresses.**
- **OPTIONAL: You may also wish to make an address book entry any time you work with a group to save time in address entry and enhance accuracy when you communicate for collaborative purposes.**

ATTACHMENTS: Prior to working on attachments, please review the File Management document that was part of the second tutorial. Also, read the "Attaching Files" segment at the Learnthenet site.

Attachments are used to send files, e.g., word processing documents, spreadsheets, etc. with an e-mail. Because each e-mail program encodes and decodes documents differently, I will provide general guidelines for you to follow. You will need to experiment to achieve success, however.

Most people indicate that attachments which are created and read by the same software will enhance the prospect of success. For example, if you create a document in Word97 and the recipient also has Word97, there should be no problem. Transmitting documents Mac to PC and vice versa sometimes are more

difficult; however, once again if both recipients use Microsoft Word, this seems to help.

Text format: All computers should be able to read documents that are transmitted as ASCII files (text only). When you do a "Save As" command in your word processing program, select "text only" (.txt) as the file type. (This option is usually located just below the field where you enter the document name.) Note that this will remove formatting (centering, bolding, table formatting, etc) from your document.

You can also write the document in your computer's "Notepad" or "Write" word processing program. These programs (or similarly-names ones) generally come standard with your computer and have the capacity to write and save files ONLY as a .txt document. Because this is the most rudimentary file type, Mac and PC users should be able to read these files.

Rich Text Format: Saving a document as a Rich Text Format (.rtf) type in your word processor (instead of .txt or .doc) should preserve the formatting (centering, bolding, etc.) and generally enables Mac and PC users to share files. Use the .rtf format when transmitting your academic work that has been created in APA style.

Document (.doc) format: Many of the more current word processing programs will be able to read documents that have been saved with the .doc extension. Feel free to experiment.

Attachment Tips & Techniques:

It is generally desirable to send documents that have the formatting preserved. This will allow you to send documents with APA format, tables, etc. Therefore, here are some tips that will improve a successful transmission.

Use similar software whenever possible, e.g., Microsoft Word sender to Microsoft Word recipient. Use short file names (maximum or 8 characters followed by a period and a three letter extension) because not all programs can read long file names. For example... tutorial.rtf Some word processing programs allow you to select any last 3 characters in the extension, however, I would suggest using .rtf (or .doc) to help the recipient's program recognize the file. Most word processing programs will add the three-letter extension, e.g., .rtf automatically when you highlight the file type.

In the e-mail to which your document is attached, advise the recipient of the software and version you used to create the document. For example, This document was created by Microsoft Word (PC) version 6.0 and saved as an .rtf file. This provides the recipient with valuable information in case the attachment does not open automatically.

If you try these methods and still get gibberish, I would suggest using an e-mail program to send and receive the document that is integrated into a browser. For example, use the e-mail program within Netscape Gold.

Assignment:

- **Send a .txt file attachment to each member of your work group and to me. Identify it as a text file in your e-mail and indicate the program you used to create the file. Also, include the name of your e-mail program that you used to encode the file, e.g., Eudora, Netscape mail, Outlook, etc. Note: Some e-mail programs will append the e-mail at the end with your file. Other programs will send the file as a separate document.**
- **Send an .rtf attachment file to each member of your work group and to me. Follow same steps in part 1. (I would suggest sending something written in APA format, if possible, since this is type of document you will want to transmit to your professors.)**
- **For each document you received in part 1 and part 2, respond to the originator with information that you were or were not able to read the document.**
    - (Attempt to problem solve difficulties with transmission/receipt by yourselves. Contact me for help, if needed.)
- **Appoint someone in your work group to send a summary e-mail to me that reports your success as a group.**

Note: Please work diligently to achieve success with attachments. You will then be able to send your papers in APA style to your professors. If you cannot get .rtf or .doc files to transmit/receive appropriately, don't worry. You will soon be posting your work to the Web and can transmit your work that way.

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Appendix E.

Web Publishing

Tutorial #4

Web Publishing

Bob Geibert, R.N., M.Ed.

Introduction:

In this tutorial you will learn how to prepare and publish your work on the World Wide Web (WWW). The focus for this particular assignment is not to design a pretty home page; rather, it is to help you gain basic skills that are requisite for posting your academic work so that it can be admired, as well as critiqued, by your colleagues.

Netscape Navigator Gold contains authoring and editing tools that will help you create your work. This particular program was selected because it operates on Mac and PC platforms, is available at no cost (via Internet download) to faculty and students, and requires only 8 megs of RAM.

Some of you have asked about using Communicator (the newest version of Netscape's browser). This is fine, and the editing tools can be found in the "Composer" component of the program. You should be able to make the conversion between the two Netscape products without much difficulty. Composer includes more features which sometimes, I think, may make things a bit more confusing--especially for the novice.

Other HTML editing programs such as Claris Home Page, Front Page, Hot Metal Pro, Pagemill, etc. may be familiar titles to you. Microsoft Word95 has an "Internet Assistant" add-in that can be downloaded free from the Microsoft site. This program allows you to edit and save documents in HTML format. For those of you with Word97, you will note that HTML editing features are an integral part of the program (if you selected and included them in the installation process).

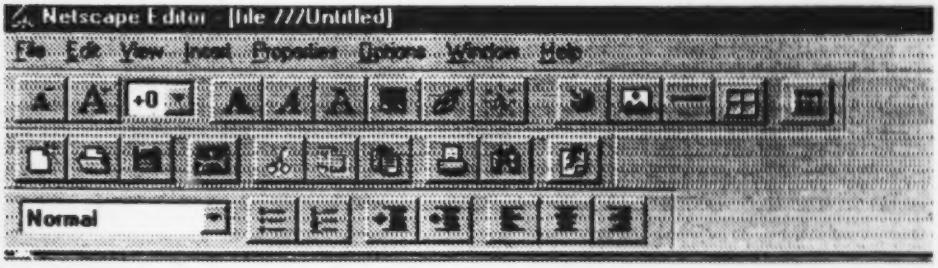
I will work from a PC version of Netscape Navigator Gold so there may occasionally be small terminology or icon placement differences for Mac users; however, you should be able to make the transition if you do a little exploring and consult your online help files.

I would suggest that you *quickly browse through the entire document* while you are online so you can take advantage of some of the graphics and fun little "demos" that I have included. Then, **print out** this document prior to beginning the tutorial so you can work off line in Netscape Navigator Gold (I'll refer to it as NG to save

time) as you follow along. When I want you to follow a series of commands, I will write them consecutively separated by a slash mark. For example... File/New Document/Blank means to first select File, then select New Document, then select Blank. Does that make sense?

Let's begin...

While you are off line (not connected the Web), open NG and select: File/New Document/Blank. Notice how the Netscape editor opens? You can tell you are in an "edit" mode because the window has a red border. (Composer does not have the red border.) Let's look at the tool bar and see what is new and different from a standard editing toolbar. Note: Here is where it helps to follow along while you are actually using NG.



Allowing your mouse to "hover" over any of the buttons will show you a "pop up" definition of the feature.

The A- and A+ icons allow you to decrease or increase font size. It's easy to highlight your text then adjust the size.

The drop-down box with the +0 is another way to do the same thing.

The next three A's allow you to **Bold**, *Italicize* and print `fixed-width` text. Note that there is no feature for underlining because that is reserved for links.

The multi-colored box lets you select font color.

The **link** button is what makes Web browsing fun. Use it to tell the browser to link to other URLs.

Skipping over to the bulls-eye... This lets you select a certain place in your current document by clicking on the link. For example, I might put a link at the end of the document that says Top. Clicking on that link will take you automatically to the place in this document where I "anchored" it. Neat, huh?

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Images are important pieces of Web pages. Click on the image button now but don't feel overwhelmed with all of the information you see. This box lets you name the image and where it can be located, tells the software where to place the image, and allows you to size the figure--that's all.

You're really getting to be "hot stuff" with all of this computer terminology so I thought you might need cooled down a bit. Sorry if that drives you crazy! As you can quickly see, animated images are NOT a good idea to include in professional work. But, who said this tutorial was going to be professional???

There's an interesting thing to keep in mind about images. Even though they "look" like they are embedded in a document, when you publish them on the Web, you have to make certain that each image gets transferred (as well as the text); otherwise, you will get a graphic place-holder that shows where the picture should have been. Everyone will make this mistake at least once---and then again, some of us have made it more than once! :)

One final note about images, the Web only likes files with a gif or jpeg format. File conversion software like Paint Shop Pro may be used to help convert images that are in other formats.

Web pages don't have real page divisions like in a printed document. **Horizontal lines** help divide text visually for the reader. For example, you may wish to insert a horizontal line between your conclusion and the "Reference" page. The length, color, thickness, etc. of horizontal lines can be adjusted. For an academic document, a very plain line (like above) is perfect.

Tables may help you organize information. They seem to be easier (at least for me) if they are created in Word and then imported. My tables always seem to look good in the "edit" mode but not as good in the "browse" mode. So, I would suggest that you don't waste too much time getting the perfect table.....Have fun experimenting and when you become a table whiz, please send some hints my way!

Having fun yet?	This is an experiment.
It is only a test	See how it works?

The final button on the top row of the tool bar lets you change **properties** of characters, paragraphs, and links.

The next two lines in the tool bar will look more familiar to you. Here is where you will find your cut, paste, print, bullet, numbering and alignment buttons.

Click in the drop down box that says "Normal". You will see a listing of automatic styles that you may wish to use--and I would recommend that you do so.

This is Heading 1 - centered

and in technicolor

Here's Heading 4 - left aligned

And this is just plain normal text that is right aligned.

It's time to do a little playing now...

Make a **bulleted list**. Maybe it's your "To Do" list....

- Study
- Work
- Study
- Have fun - Huh? How did that get in there???!!

Now try a **numbered list**. You can do it the same way. Note that you may see # signs instead of numerals. Don't worry...the numbers will show up when you view the document with your browser.

And, speaking of browser view, click on the Netscape icon just next to the "cut" button. This will give you a **preview** of what your page will look like. To get back to the editing window, simply close the browser window.

Hint: Have you noticed that sometimes you get too much space between your lines? That is an annoying HTML thing that will some day be corrected, I hope. It can sometimes be helped by holding the shift key down while you press the Enter key at the end of a line. Do this especially when you are trying to keep specific lines of information close together.

As we conclude our tour, note that the final two buttons help you **increase** and **decrease** indented text (just like this).

The **alignment** buttons are pretty self-explanatory. I like to write the text, highlight it, and then select the alignment. Remember, HTML does not have easy-to-use justified alignment--at least not yet.

Wake up!!..... (Make sure your speakers are on and double-click on the musical notes)
If it doesn work...don't worry...it was just an experiment.

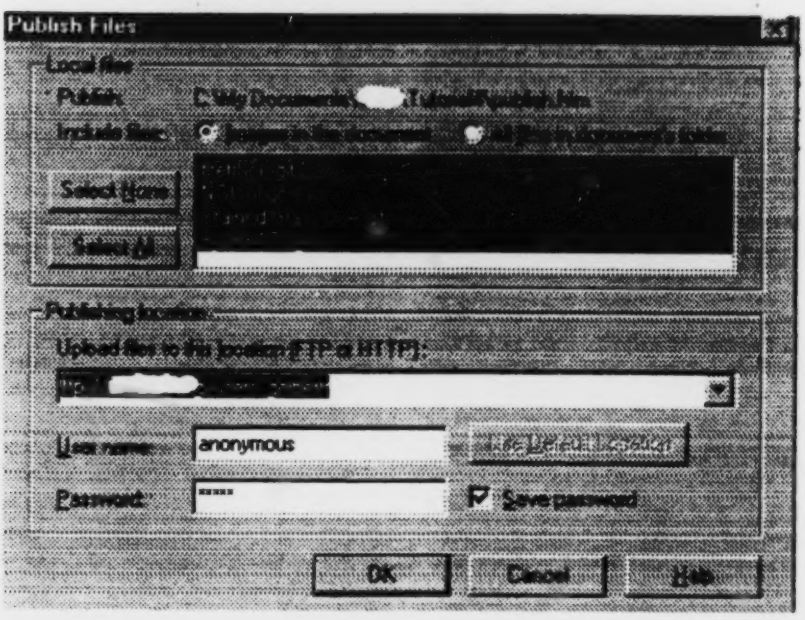
For the final stop of the tour, go to the word "Properties" on the menu bar at the top of the window. Select Properties/Document/General (tab). Name your document in the **Title** box. The title of the document will be displayed in the browser's title bar, and in history and bookmark lists, etc. when the document is posted on the Web. The author, description, and other attributes sections help search engines locate your document but will not be used for the purpose of this tutorial.

When you close your document for awhile and want to come back, you will follow this procedure.
Open Netscape Gold. Select File/Open File in Editor. Then locate your file just as you would with any other document.

Remember to **SAVE** your work frequently. Some programs will save with an .htm extension and others will use .html. Although they both represent documents in the HTML format, you must be specific when telling people how to locate your document.

PUBLISHING: Netscape Gold has made publishing your work on the Web very easy. Click on the Publish button on the toolbar, or choose File/Publish from the menu and you will see a dialog box. Radio buttons in the Local files area will let

you choose to upload only the Images in the document, or All files in the document's folder. A list of files lets you choose individual files to include in the upload or you can select "None" or "All" using the radio buttons. It is wise to make certain any files you want to transfer are saved and closed.



The Publishing location box includes fields for the URL of the destination where you want the document to be uploaded. Depending on how the site's owner has designed the server space, a name and password may be required.

I have created space for each of you on our new ssumsn.org account. Your directory will be your last name unless I have notified you otherwise via e-mail. In the example above, I used my first initial, too. Do not follow that model.

NOTE: Your user name should be *anonymous* and your password is ***guest***

To upload your files, use the directory: ftp:// /users/(your directory goes here)

After you transfer your files to the Web server, you should use your browser to look at the site. If you find that the document needs some re-adjusting, go back into the NG editor, make the changes, save and close the document and re-publish. Since the document is named the same, it will overwrite the existing document. Note: If the document looks the same after you have made changes and re-posted, your browser may be referring to the document in its cache. In Netscape, you can hold the Shift key while you click on Reload. This will cause the browser to go to the Web server again. If this still does not work, clear your browser's cache.

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To locate your document, the URL will be something like this:
<www. _ 'users/geibert/assign2.htm>

You will need a password to view files in the "users" directory. The password will be sent to you via e-mail.

Publishing guidelines: The space we have reserved for student assignments is not to be used to publish your own personal home page; it is reserved for your academic work only. There are many other resources for personal Web space and I would encourage you to explore the possibilities. Begin with your Internet Service Provider (ISP). For example, JPS.net provides 20 megs of space free with each account. Several companies provide free Web space. A very popular one is Geocities. You may wish to use a search engine to locate others.

Also please note that you are not required to post your work on the ssumsn.org Web server. Feel free to use your personal web space, if desired.

WS-FTP and Fetch: By now you may have realized that Netscape Gold offers an easy way to post but does not offer a method to remove files from a Web server that you no longer need. I would strongly encourage you to become familiar with more powerful file transfer protocol (FTP) programs like "WS_FTP" for the PC or "Fetch" for the Mac. These programs, and their tutorials, can be downloaded from the Nova Southeastern site. Although these programs are not difficult to learn, they are outside the scope of this tutorial.

When you begin removing files from the server, be VERY careful that you are working in the correct directory. Otherwise, you could accidently delete someone else's work. The way our Web space is designed, it is not possible to password protect each of the directories.

Other Resources: All major bookstores have shelves full of books that can help you with Web publishing. For starters, consider purchasing a book on Netscape Gold or Netscape Communicator and read the "Publishing" chapter. You may also wish to contact friends, colleagues, or classmates who have had Web publishing experience. The first time is always the most difficult and then it gets to be very simple--just like doing a file transfer from one directory to another on your own computer.

Now it is time for some F U N ! ! ! ! !

Tutorial #4 consists of three parts:

1. **creating a new HTML document from scratch**
2. **converting an existing word processing document into HTML format**
3. **posting both documents to the Web**

1. Be innovative and creative when experimenting with part one. Here's your chance to try different styles, divide text with horizontal lines, add external links, etc. Including an image is *optional*.

2. For part two, I would suggest converting an assignment you prepared for another class. If you do not have this type of document available, almost any word processing document will work.

Those of you who use a word processing program that has HTML capability (e.g., Word97, or Word 95 with the Internet Assistant) can open the .doc file and then save it as an HTML file. Then, re-open the file and make necessary adjustments.

If your word processing program does not have HTML capability, no problem.... First, open your word processing document, "Select All" of the text and "Copy" it to your clipboard. Then open Netscape Gold in "edit" mode and "Paste" the text into the document. Voila! When you save the document, NG will format it as HTML. You can then re-open the document and make necessary adjustments.

Conversion pointers: Remember that you will have to do some futzing with the document since HTML cannot interpret all word processing commands, e.g., double spacing, headers, page numbering and page breaks, etc.

3. Post both documents to the www.ssumsn.org directory under your name (or on your own Web account). A "Publish Practice" Internet Classroom Assistant (ICA) classroom has been opened where you can post links to your work for others to view. The classroom key is and can be accessed at the **new** ICA site.

VERY IMPORTANT: The ICA is at its new site now so please use the <http://www.nicenet.net> address. If you have not yet registered at this site, join as a new user. If you have already registered at the new site, enter your user name and password and then join the class from within the ICA. (The class records from the old site are still accessible there but user information does not transfer.)

The "links" part of the "Publish Practice" ICA class is where I will go to verify that you have completed this part of the assignment.

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Appendix F

Chat

Tutorial #5

Chat

Bob Geibert, R.N., M.Ed.

Online chat is a form of synchronous communication because participants need to be logged on at the same time to communicate. Chat via computer networks has been around for many years, allowing users from around the world to talk in "real time." Internet Relay Chat (IRC), with its many keyboard commands, is one of the original (and still popular) formats. America Online, Compuserve, and other commercial providers have popularized chat by eliminating the cumbersome keystroke commands, and providing a multitude of chat rooms on every topic imaginable.

Chat is a valuable tool in collaborative academic work when decisions must be made and the participants are not able to physically be together. Much like a telephone conference call, participants establish a set date and time when everyone will meet. Unlike a telephone call, however, where many people can speak and a lot of information can be shared in a short amount of time, online chat proceeds only as fast as people can type.

Doing as much groundwork prior to a chat session is ideal-perhaps via an online conference or forum. Chats are generally not the time to present large amounts of new information. They are better used when you want to bounce ideas back and forth or when several people need to reach consensus after having an opportunity for negotiating or discussing the topic. One medical school uses live chat for Problem Based Learning (PBL). A "case" or problem is presented and the students, as a group, offer input to put all of the puzzle pieces together (so-to-speak) and reach a diagnosis.

Small groups of 6-8 or less work better than larger groups, however "auditorium" style chats may also be effective in certain circumstances. For example, it is possible for a guest presenter to be interviewed in front of a large audience. This commonly happens when TV or movie personalities are guests on AOL or TalkCity. Responses from the audience can be controlled or limited by a moderator.

Some chat software allows the communication to be "logged" or saved. This can then be edited as necessary, saved in HTML format, and posted to a Web page for future viewing. By "editing" I'm referring to the fact that every comment, e.g., "Hi" and "Bye" messages as people enter and leave the room are recorded. These

become somewhat annoying and superfluous to a reader who is attempting to read the script later.

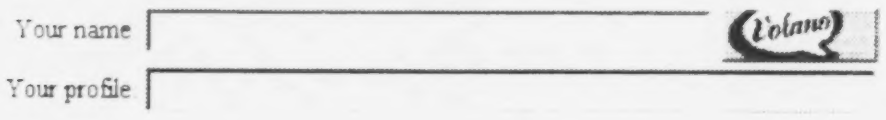
The original version of Netscape Chat has a feature that allows a leader to take all participants along for a Web tour. As the leader enters URLs into a special field, all participants will be automatically "led" to the designated URL. This feature allows an instructor to prepare Web pages prior to instruction for viewing during the chat--a time-saving feature. The content can then be used as a stimulus for response.

For the purpose of this tutorial, you will use two types of chat software. The "Volano" chat software is Web-based and does not require you to download any special programs. Netscape Chat 2.0 must first be downloaded onto your computer and then run as a program in conjunction with Netscape Gold or Communicator.

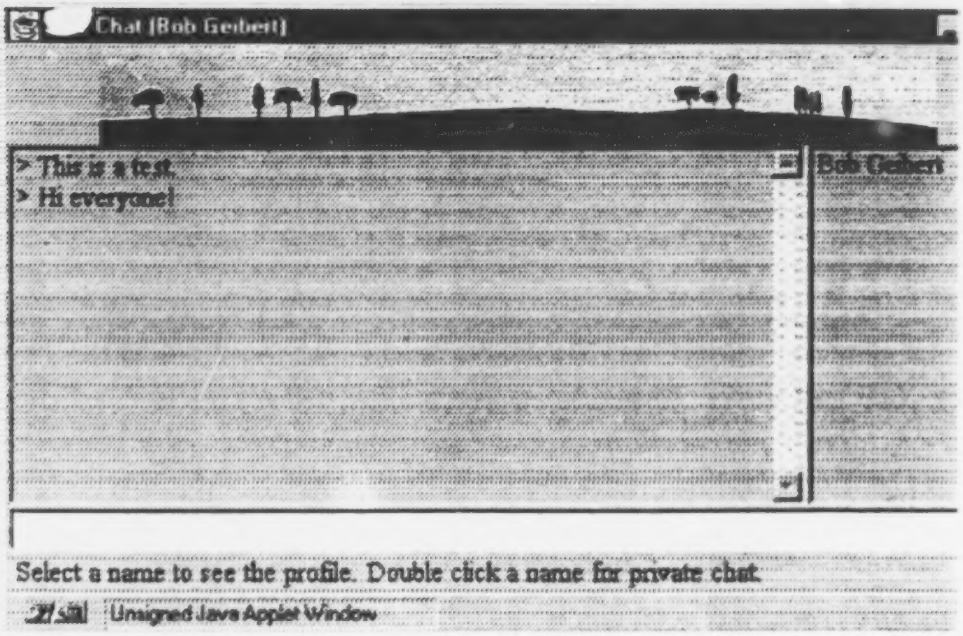
Volano Chat: Volano chat is available via your Web browser and can be accessed by clicking here.

You can also access it directly: http: www.. chat.html
This is a good URL to put in your bookmarks/favorites.

Note that it may take your browser a minute or two to load all the information it needs from the Web server. Your second attempt while using Internet Explorer may be faster; however, Netscape loads "from scratch" each time. You will know that the program is ready to use when you see the fields for "Your name" and "Your profile."



Enter your name in the top box. The "profile" section is optional for the purposes of an academic discussion. When you are ready to chat, click on the "Volano" button and it will open a chat screen.


Chat [Bob Geibert]
> This is a test.
> Hi everyone!
Bob Geibert
Select a name to see the profile. Double click a name for private chat.
Unsigned Java Applet Window

Type your comments in the field above the "Select a name ..." area. It's very easy to use

One final note about Volano chat. Please feel free to use this method of communication for your academic work. It is available to you 24-hours a day. Because each transmission is applied to our monthly data transfer quota, use for personal communication should be limited until we get a better idea of our monthly utilization on this Web server. Thanks!

Netscape Chat The version of Netscape Chat we will use is no longer commercially available, however, it can be downloaded from a site at Nova Southeastern University. Please select the appropriate version for your computer's operating system. To download, click here. The program has a self-extracting feature and is very easy to use after you learn terminology that is associated with IRC software, e.g., port, join, rooms, nick, etc.

A brief tutorial for using Netscape Chat was developed by one of my professors, Dr. Marsha Burmeister. Screen shots show the Mac version; however, the PC software is similar. Please note carefully the setting guidelines that will enable you to log onto the Nova chat server. You may leave the log in and password fields blank. A nickname is required, however. For more information about Netscape Chat, please refer to the Netscape Chat Handbook.

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Because our chats will take place on the Nova server, you should find the network less crowded than TalkCity. Private rooms can be set up so your work groups can meet for collaborative work. Specific room names and passwords will need to be organized ahead of time among your chat participants because the rooms are not "permanent" as in the TalkCity . i, 2, etc. environment. For example, you may decide to call your room "Group 3" and make the password " " and meet on Friday, February 30 at 6:00 p.m. Pacific Standard time. (I know, I know....there is no February 30-I just wanted to see if you were paying attention!).

One final note about the Nova chat server. We are guests in this space. If you should ever encounter any problems, please direct any questions to me. Do not request assistance from anyone at the Nova University help desk.

Assignment:

1. Download the Netscape Chat software from the Nova site and prepare it for use.
2. Read the tutorial.
3. Set up the Netscape Chat software with the settings indicated in the tutorial.
4. Practice connecting to the Nova chat server so you will be ready for a "practice" chat.
5. Watch for the schedule of "practice" chats and plan to attend at least one.
6. Practice logging into a Volano chat. Set up a Volano chat with a classmate to practice.

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1/7/98

Appendix G.

Syllabus

UNIVERSITY
Department of Nur$ing

N515
Financial Management in Health Care Organizations
4 Units
Monday 1730 - 2100 hrs

Spring 1998

Faculty:
Dr. Gregory Crow, Professor

Financial Management

Course Description:

This course will provide the student with theory and experience in financial management and business planning. The course is divided into three segments: 1) pre-planning, 2) business plan and budget preparation, and 3) monitoring variance. In the pre-planning phase the student will learn how strategic planning, census, FTE's, HPPD, overtime, CPUS, practice changes, capital equipment, non-payroll, physician practice, technology, and changes in other parts of the system impact the budget. In the business planning and budget phase, students will use the data in the pre-planning phase to develop a workable business plan and budget for a project, department, service, or enterprise. In the monitoring variance phase, the student will identify when and what to monitor as well as design solutions to budget variance. Students may work independently or in self-selected groups of up to 4 (four) people. If you work in a group, at least 1 (one) person must come from a different site. (Please remember that we have 2 (two) students at sites alone, . and . ...). Students are strongly encouraged to work across sites.

Objectives:

Upon completion of this course, the student will be able to:
1. Apply the elements of a business plan to a self-selected project.
2. Evaluate how budget variance is impacted by payroll and non-payroll budgets.
3. Analyze a budget report to identify the origin of variance.
4. Design solutions to variance problems.
5. Develop a workable business plan for a project, department, service, or enterprise.

Note: Adapted and used with permission

Texts:

Finkler, S.A., & Kovner, C.T. (1993). Financial Management for Nurse Managers and Exuctives. Philadelphia: Saunders. ISBN: 0-7216-3285-8 (Required)

Computer software or print copy of a business planning guide. For example: Bangs, D.H. (1992). The Business Planning Guide. Dover, NH: Upstart. (Required).

Note: There are numerous business planning guides on the market. I would suggest that you go to your local bookstore and browse around for one that meets your needs. Choose one that focuses on small business planning. The one you choose should have at least the following elements: 1) Statement of Purpose, 2) The business project that includes a description of the project, the product or service you plan to offer, and market analysis, 3) Financial data such as sources of funding, fixed and variable cost analysis, capital equipment, personnel budget, building costs, licensure costs, liability costs, break-even analysis (this is in the Finkler text as well), forecasting, variance analysis, and start up costs, 4) Supporting documents such as personnel resumes, letters of support, job descriptions, contracts, and legal documents.

Requirements:

1. Attendance and participation in all teleconference and Internet seminars.
2. Preparation of a business plan.
3. Presentation of the business plan and budget to colleagues.

Grading:

Presentation 20% Business plan and budget 80% Extra Credit: There is extra credit for students who take the accountability to present 1 chapter readings (5 points) or 2 chapters (10 points). This option must be taken by week 2 of the course, **NO VOLUNTEERS WILL BE ACCEPTED AFTER WEEK 2**. Presentations can be on teleconference or posted on the WWW. Note, this presentation is not the mere regurgitation of the content of a chapter. The instructor is expected to give an overview of the chapter and use examples to illustrate the "application" of the information to the real world. Chapters 1,2,3,4 and 19 are not available for student presentations.

95-100 =A
90-94 = A-
85-89 = B-
80-84 = B
< 80 is not a good idea

COURSE SCHEDULE

T = Teleconference
I = Internet

Class 1	1/26	T	Course introduction and selection of projects and teams. The business planning process
Class 2	2/2	T	E-mail project descriptions and team members to instructor. Chapters 1,2,3
Class 3	2/9	I	Chapters 4,5,6
Class 4	2/16		Holiday
Class 5	2/23	I	Group or individual project work. Instructor will be available by Internet chat room pre-arranged appointments. Appointments are 15 minutes each. Your goal for this week will be to have part one of your business plan completed. Part one consists of the cover sheet, table of contents, state of purpose.
Class 6	3/2	T	Chapters 7 & 8
Class 7	3/9	I	Chapter 9. Pre-arranged Internet

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			appointments available.
Class 8	3/16	I	Same as week 5
Class 9	3/23	T	Chapters 10 & 11
Class 10	3/30	I	Chapters 12, 13 & 14
Class 11	4/6	I	Chapters 15, 16 & 17. Your goal for this week is to have part 2 of your business plan completed. Part 2 consists of the business project (description of project, product or service you are offering, market analysis, location and building site, completion analysis, and management structure).
Class 12	4/13		Spring break
Class 13	4/20	I	Chapter 18 and pre-arranged Internet appointments. Your goal for this week is to have your business plan completed and ready for presentation. The third part of the business plan consists of: sources of funding, fixed and variable costs, capital equipment, personnel budget, building costs, licensure costs,

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Class 13	4/20	I	of funding, fixed and variable costs, capital equipment, personnel budget, building costs, licensure costs, liability/insurance costs, break-even analysis, forecasting and/or savings projections, variance analysis, and start-up cost
Class 14	4/27	T	Project presentations. These presentations will be no more than 15 minutes. All projects are due to the instructor by this date. There will be a 5 point deduction for each DAY the project is late.
Class 15	5/4	T	Project presentations continued
Class 16	5/11	T	Project presentations continued, celebration of the end of your second semester, review of the summer courses (Issues, and Ethics), and evaluation of this course

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Appendix H

Business Plan

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Financing Proposal
For
Renal Management Program

To be Submitted to Huge HMO
Regional Financing Committee

Prepared for Dr. Greg Crow
University
N515

Claudette Gravell
Darcy Heagy
Maria O'Connell
April 27, 1998

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1. Statement of Purpose

The principals are seeking $254,188.00 for the remodel of existing out-patient clinic facilities, acquisition of capital equipment and supplies, and provide salaries for personnel to create a non-hospital based peritoneal dialysis (PD) unit to service patients of the Huge Health Maintenance Organization (HHMO) with end-stage renal disease (ESRD). Once Health Care Financing Administration (HCFA) regulations are met. Funding for ongoing patient care will be provided by Medicare. We anticipate it taking 3 months to get HCFA certification for the PD program.

2.Company History

Originating as a hospital service plan for construction workers in the 1930's, surgeon S. G. M.D. joined efforts with industrialist H. K. in 1945 to revolutionize health care delivery by utilizing an integrated approach to patient care. They stressed prevention, quality and appropriate use of health care services. Their efforts created what is now known as Huge HMO, the nations most experienced prepaid group practice health care provider. Huge utilizes a decentralized management system, by geographic regions, to better serve the member population. Three branches make up Huge HMO: Huge Foundation Health Plan Inc. provides the marketing, benefit and other administrative functions, Huge Medical Group physicians treat the health plan members and Huge Foundation Hospitals.

Huge HMO is one of the progressive medical environments among today's managed health care systems. It boasts 50 years of leadership and experience. Its membership exceeds 6.6 million throughout the country. The Orange County Member Service Area (MSA), is one of the 13 medical service areas in the Southern California Region. The Orange County MSA continually advances in health care delivery with progressive products, services and innovations involving the community in which its members work and live. It promotes good health among its members and employees.

2.1 Company Product

It is our mission to improve and maintain the health of our members by providing health care that is of the highest quality. Currently, these patients are serviced at dialysis centers outside of our control, but not outside of our responsibility. There have been concerns from patients and providers regarding the timeliness of services and the quality of services, especially with regard to complication rates. Since Huge HMO is responsible for these patients and their complications, it sense to decrease those complications to a minimum. These ends are in direct agreement with the HMO's stated mission to provide high quality care, with reduced cost, increased customer satisfaction, decrease customer waits, and the health care team's satisfaction. Playing an active role in the community, our vision encompasses compassion, teamwork, and superior value in health care. The Renal Management Program (RMP)was developed as part of the HCFA Medicare Demonstration Project for Kidney Patients. The RMP is a division of Nephrology under the Internal Medicine service line. The Demonstration Project allows active membership into the health plan as part of the Medicare Risk Program even though a pre-existing condition is present.

The RMP will specialize in the provision of Peritoneal Dialysis (PD) services to the organization's existing members and future members requiring a dialysis modality. All forms of Peritoneal Dialysis will be offered to include: Continuous Ambulatory Peritoneal Dialysis (CAPD), Automated Peritoneal Dialysis (APD), and Intermittent Peritoneal Dialysis (IPD). RMP will case manage each individual member on PD from

the onset of renal failure until discharged from the program (i.e. transplantation, change in modality, change in health insurance, or expiration).

2.2 Company Location and Facilities

The RMP will be located at the Lakeview Medical Offices in Anaheim, California, adjacent to the hospital, and conveniently located near the 91 Freeway, easily assessable by public transportation. Laboratory, pharmacy and support services are located on the premises and at other Huge medical office sites throughout Orange County. Proximity to the hospital is required for continuity of care and to provide 24 hour coverage.

An area of 600square feet will be required to properly manage our current population with room for growth. The proposed area will need to be remodeled to include: a) two teaching rooms, b) one exam room, c) a bathroom, d) conference area for 10 people, e) 4 work stations, f) and a large storage space. See the diagram in supporting documents.

3.0 Products and Services

The Renal Management Program (RMP) provides the human resources and equipment required to improve the health and well being of the member with End Stage Renal Disease. A multidisciplinary team (MDT) approach is utilized in the management of the peritoneal dialysis population. Quality improvement programs will be utilized to set standards that exceed the community's. Specifically these standards would include improved monitoring of adequacy of dialysis, blood pressure control, prevention of anemia, electrolytes maintenance, and diabetic control. Improved quality of care will be the main program focus which will lead to a higher quality of life for the member and family and decreased cost for the organization. By monitoring outcomes, the program goal of decreasing morbidity and mortality can be met.

3.1 Product and Service Description

The peritoneal dialysis clinic will provide education and support regarding health maintenance to improve the quality of life for the member on peritoneal dialysis.

(1) A multidisciplinary team approach will be utilized. The MDT will consist of a Nephrologist, a surgeon, an RN case manager, an RN PD coordinator, a Registered Dietitian, a Social Worker, a Pharmacist and other ad hoc members.

(2) Continuity of care with an assigned Nephrologist as well as the MDT will be an asset. Currently this population receives very disjointed care. The HMO requires the member to be seen quarterly by their HMO Nephrologist. Medicare requires that peritoneal dialysis patients be seen on a monthly basis. To comply with the Medicare guideline the HMO has contracted this service out to community nephrologists. To improve continuity of care the HMO nephrologist will function as the primary care physician.

(3) Comprehensive case management by a Registered Nurse will foster patient satisfaction by helping the member acquire the appropriate care at the appropriate time with the appropriate provider. The case manager will serve as a patient advocate and leader to the MDT under the direction of the nephrologist. A proactive approach will be utilized in the management of co-morbidities there by decreasing morbidity and mortality by early intervention. The case manager will also be responsible for monitoring departmental cost to assure budgetary compliance.

(4) The RN PD coordinator will be responsible for patient selection, catheter placement training for and initiation of PD.

(5) Nutritional support and dietary education by a registered dietitian will be available for all PD members. One-on-one or group education will be utilized at each monthly clinic.

(6) Social Services for psycho-social issues and rehabilitation are necessary to help these member rejoin the work force and return to productive lives.

(7) A clinical pharmacist will be available to assist in patient education, medication monitoring, and coordination of care.

(8) Secondary care specialists are readily available for consultation and referral.

(9) Acute care and diagnostic services are available at the adjacent hospital. Emergency services are available through out Orange County.

3.2 Important Features

There are several features within the RMP which sets it apart from the current model of contract care. These features will give the HMO an advantage in improving the health of the ESRD population and maintaining cost containment in a competitive environment.

(1) The RMP is structured in a way that cannot be duplicated in the fee for service environment. Because the organization is an HMO, the member has access to comprehensive care which assure continuity through a shared commitment towards quality assurance goals.

(2) The RMP functions as an ombudsman for the patient. One of the most valuable functions of the unit is primary resource for all problems and questions for the patient. This service is not offered by the community peritoneal dialysis units, where any problems that arise are referred back to the HMO physician who has had minimal contact with the patient.

(3) Because the unit is near the nephrologist, the nurse has immediate access for guidance and problem solving consultation. In the community the Nephrologist is not on site and is rarely available for consultation by the PD nurse.

(4) Since the nurse is involved with many judgments and decisions regarding the PD patients welfare, a comprehensive team approach is necessary. This MDT approach fosters the development of a knowledgeable, independent, and well-trained patient capable of self-care, who has less need for medical resources thus lowering operational and complication cost.

(5) The quality improvement program designed by the RMP will be based on best practices and literature reviews. There are no community standards of care for adequacy of dialysis, but, recent studies have shown that there are biochemical vales or markers which correlate with improved patient outcomes. Because of the literature, the RMP will set higher than average standards for adequacy of dialysis by control of blood chemistries. This close monitoring will also mitigate the affect of co-morbitities.

4.0 Market and Business Strategy

The cost of End Stage Renal Disease runs into the billions of dollars in the United States. It is the only chronic disease that the Government recognizes as a disability so that individuals would qualify for Medicare to off set the cost of dialysis. Nationally, in 1996, the average number of hospital days for ESRD patients was 21 days/patient / year while the average at HHMO was 7.7 days /patient/ year in MSA's with internalized PD units. The mortality rate nationally for ESRD was over 20% for the same period while HHMO averaged 13% per year. The RMP will have alliances with similar units among the MSA's in the other HHMO regions that will expedite the needed collaboration and sharing of best practices. Because HHMO encourages empowerment, innovation, and accountability the possibility of proposing a cost-effective, reliable RMP program to the community could be anticipated in the near future.
The primary and secondary physician providers will be able to coordinate care plans, including medications, and lab work by easy access to the nephrologist. Concerns and questions are only a phone call away and information is obtainable by the computerized medical record.

Cost containment is kept in check by taking existing resources within HHMO already standing facility and existing health care personnel and reallocate them to the RMP, thus, avoiding new construction, new hire recruitment and orientation. Decreasing the use of contracted services will reduce outside medical costs over which we currently have limited control. Another method of cost control would be decrease and duplication of services though use of electronic medical record in the RMP. The RMP is anticipating a decreased hospitalizations rate as demonstrated in other PD units controlled by HHMO's MSAs.

4.1 Business Strategy

Our strategy will be to provide the treatment of renal failure in a cost controlled environment without compromising quality of care. With increasing dialysis costs, the practice of referring members outside of the HHMO system is becoming too expensive to manage. It is difficult to oversee the quality or efficiency of several contracts as well as verifying their billable claims for accuracy. Member satisfaction will be an attainable goal by ensuring efficient care with ready access to the primary care physician, medical and diagnostic facilities as well as pharmacy services. The training provided by our highly qualified RMP staff will decrease dependency upon the unit or other medical resources. The member will demonstrate a higher competency level regarding knowledge of the disease process and of the peritoneal dialysis process. We propose that with greater satisfaction there will be improved quality of life and a decreased infection rate. There will be greater satisfaction for the RMP staff MDT because of more efficient management of the member, continuity of care and decreased complications. Reduced need for contracting with community providers will reduce outside claims and paperwork. The members who are already receiving care with a contract provider and do not wish to change will be permitted to remain with that provider. Limiting contracts to a selected number of high quality outside providers of dialysis services can better meet our members' needs. By limiting the number of contracts, HHMO will be able to maintain the standards sanctioned by National Committee on Quality Assurance (NCQA) thus meeting our organizational goals.

The volume of RMP patients will be congruent with HHMO's membership growth as well as the expansion of the HCFA Demonstration project. Since the overall business strategy of the HHMO is to attract new members and a significant number of the population will require ESRD services, the RMP will be guaranteed new patients. Currently, overall estimates for HHMO's patient population in Southern California demonstrate a 4:1 ratio of chronic renal insufficiency (CRI) to ESRD. Potentially all the CRI members will eventually become ESRD consumers. Currently the Orange County MSA has 211 ESRD members of which 26 are on PD.

5.0 Break-Even Analysis

The break-even analysis conducted on the available data utilizing the formula:

$$Q = FC/ P\text{-}VC$$

where FC is the fixed cost; P is the price; VC is the variable cost; and Q is the quantity needed to break-even. According to our analysis 34 patients are necessary to have the RMP break-even. This net number of patients is projected to be enrolled by the end of 1st quarter, 1999. (Refer to Table VIII.)

6.0 Summary and Conclusion

After the intense analysis performed on the available data, we have concluded that the profit margin will increase dramatically. We are also confident that the quality of care and satisfaction of the individuals, both consumers and providers of care, will increase. This project will also provide an opportunity to benchmark complication rates prior to the institution of the multidisciplinary care team and compare these with utilization of inpatient and emergency services.

7.0 Tables and Addendum

Table I.....Payroll Cost

Table II.....Capital Equipment

Table III.....Non-payroll Costs

Table IV.....Expense Report

Table V.....Revenue Projection

Table VI.....Outside Contract Cost

Table VII.....Contribution Margin

Table VIII.....Break-even Analysis

Addendum.....Amortization Tables

Diagram.....Floor plan RMP clinic

Selected References

Bangs, D.H. (1995). The Business Planning Guide, 7th ed. Chicago: Upstart Publishing.

Finkler, S. A. and Kovner, C.T. (1993). Financial Management for Nurse Managers and Executives. Philadelphia, W.B. Saunders Co.

Federal Register. (1976). Department of Health, Education and Welfare. Social Security Administration. Renal Disease. V41, N108.

Department of Health and Human Services. (1984). State Agency Letter No. 84-14. Surveying facilities that provide continuous ambulatory peritoneal dialysis (CAPD) only.

Huge HMO. (1993-1996). All statistical and financial information gathered from the internal organizational databases.

RMP CAPD
Payroll Cost

Personnel	Ratio	1998 FTE for 30 pts end of 1998	1999 FTE for 40 pts end of 1999	2000 FTE for 40 pts end of 2000	2001 FTE for 45 pts end of 2001	2002 FTE for 50 pts end of 2002	2003 FTE for 50 pts end of 2003
Escalation		0	2%	2%	2%	2%	2%
Nephrologist	1 to 300	0.2	0.3	0.3	0.4	0.4	0.4
RN PD Coord	1 to 15	1.5	2.5	2.5	2.5	3	3
MSW	1 to 30	0.3	0.4	0.4	0.5	0.5	0.5
RD	1 to 30	0.2	0.3	0.3	0.4	0.4	0.4
Pharm	1 to 300	0.2	0.3	0.3	0.4	0.4	0.4
Clerical	1 to 500	0.1	0.2	0.2	0.3	0.3	0.3
Cost Payroll/Benifits							
Nephrologist		$179,460	$183,049	$186,710	$190,444	$194,253	$198,138
RN PD Coord		$77,709	$79,263	$80,848	$82,465	$84,115	$85,797
MSW		$64,084	$65,366	$66,673	$68,006	$69,367	$70,754
RD		$51,245	$52,270	$53,315	$54,382	$55,469	$56,579
Pharm		$80,000	$81,600	$83,232	$84,897	$86,595	$88,326
Clerical		$31,920	$32,558	$33,210	$33,874	$34,551	$35,242
Total Payroll/Benifits		$484,418	$494,106	$503,988	$514,068	$524,350	$534,837
Nephrologist		$8,973	$54,915	$56,013	$76,178	$77,701	$79,255
RN PD Coord		$29,140	$198,158	$202,121	$206,164	$252,344	$257,391
MSW		$4,806	$26,146	$26,669	$34,003	$34,683	$35,377
RD		$2,562	$15,681	$15,995	$21,753	$22,188	$22,631
Pharm		$4,000	$24,480	$24,970	$33,959	$34,638	$35,331
Clerical		$798	$6,512	$6,642	$10,162	$10,365	$10,573
Total Payroll		$50,279	$325,892	$332,409	$382,218	$431,920	$440,558

*At start-date of 10/1/98 we begin with 1.5 FTE RNs for a starting population of 25. We will add an aditional RN at 30 patients.

RMP CAPD
Capital Equipment Costs

Capital Equipment Costs		1998	1999	2000	2001	2002	2003
Equipment							
Treatment chairs	2@935	$1,870					
Dummy Tummy	1@350	$350					
Treatment /Exam Table	1@315	$315					
Cycler Machines *	leased	$0					
	Total	$2,535					
Furniture							
Support chairs	9@150	$1,350					
Desk Chair	5@300	$1,500					
Side Chairs	2@200	$400					
	Total	$3,250					
Total Cost of Capital Equipment		$5,785	$5,260	$4,688	$4,065	$3,386	$2,645

This equipment will service up to 51 patients.
This number will not be reached until the 6th
year of the RMP.
Some equipment is shared with the Nephrology department.

*The cycler lease price is included in the contract supply rate per patient per month.

RMP CAPD
Nonpayroll costs

	1998	1999	2000	2001	2002	2003
Direct Material & Supplies/Patient /M	$1,050	$1,050	$1,050	$1,050	$1,050	$1,050
Anticipated Patient Population/Year	30	40	40	45	50	50
Annualized Cost (Non-payroll)	$31,500	$42,000	$42,000	$47,250	$52,500	$52,500

The current contract with Baxter Renal Division is for fixed pricing.
This material cost reflects the price of CCPD which is more expensive than CAPD ($950/month/patient).
We choose to use the more expensive cost for purposes of this projection in order not to under estimate costs.

RMP CAPD
Expense Report

Expense Report	1998	1999	2000	2001	2002	2003
Payroll Costs	$50,279	$325,892	$332,409	$382,218	$431,920	$440,558
Capital Costs	$1,045	$1,045	$1,045	$1,045	$1,045	$1,045
Non-payroll Costs	$26,250	$31,500	$42,000	$47,250	$52,500	$52,500
Construction Costs	$21,323	$21,323	$21,323	$21,323	$21,323	$21,323
Total Expenses	$98,897	$379,760	$396,777	$451,836	$506,788	$515,426

Note: Outside medical costs were not figured into the analysis
because the costs of hospital and emergency room care are already the responsibility of the HMO.

Capital equipment and furniture costs were amortized over 8 years at 9% per regional purchasing.

Construction costs were amortized over 15 years at 9%.
See loan amortization tables attached.

Table IV

RMP CAPD
Revenue Projection

	1998	1999	2000	2001	2002	2003
Medicare Capitation Rate / Patient/Month	$3,200	$3,200	$3,200	$3,200	$3,200	$3,200
Projected Patients (year-end)	30	40	40	45	50	50
Total Projected Revenue	$288,000	$1,536,000	$1,536,000	$1,728,000	$1,920,000	$1,920,000

Note: Capitation collected for 1998, 3 months only.

Table V

RMP CAPD
Outside Contract Cost

	1998	1999	2000	2001	2002	2003
Dialysis Cost Per Patient Per Month outside contract setting	$1,620	$1,620	$1,620	$1,652	$1,652	$1,652
Inflation Rate 2%	0%	0%	0%	2%	0%	0%
New Patient Training Fee*	$0	$7,000	$2,500	$5,000	$5,500	$3,000
Medication Cost $11.00/1000units EPO 10000units/week/patient $110/wk*4.5wks=$495/month	$495	$495	$495	$505	$505	$505
Laboratory charges	$100	$100	$100	$102	$102	$102
Physician Fee	$250	$250	$250	$255	$255	$255
Total/Month/Patient Charges	$2,465	$2,465	$2,465	$2,514	$2,514	$2,514
Total /Year/Patient Charges	$29,580	$29,580	$29,580	$30,173	$30,173	$30,168
Total CAPD Patients/Year end	30	40	40	45	50	50
Yearly Estimated Total Cost CAPD per Outside Contract	$887,400	$1,190,200	$1,185,700	$1,362,776	$1,514,140	$1,511,400

*$500/New Patient 1 time only fee
Does not apply to internal new patient training
This was calculated using a 12.5% attrition rate/year

Table VI

RMP CAPD
Contribution Margin

	1998	1999	2000	2001	2002	2003
Estimated Yearly Cost Internal in Huge HMO	$98,897	$379,760	$396,777	$451,836	$506,788	$515,426
Estimated Yearly Cost Contract	$887,400	$1,190,200	$1,185,700	$1,362,776	$1,514,140	$1,511,400
Estimated Savings to H HMO	**	$810,440	$788,923	$910,940	$1,007,352	$995,974

**1998 is transition year, with contract patients brought back into H HMO.

Projected Revenue	$288,000	$1,536,000	$1,536,000	$1,728,000	$1,920,000	$1,920,000
Net Savings						
Revenue - Internal costs/ Year	$189,103	$1,156,240	$1,139,223	$1,276,164	$1,413,212	$1,404,574

154

155

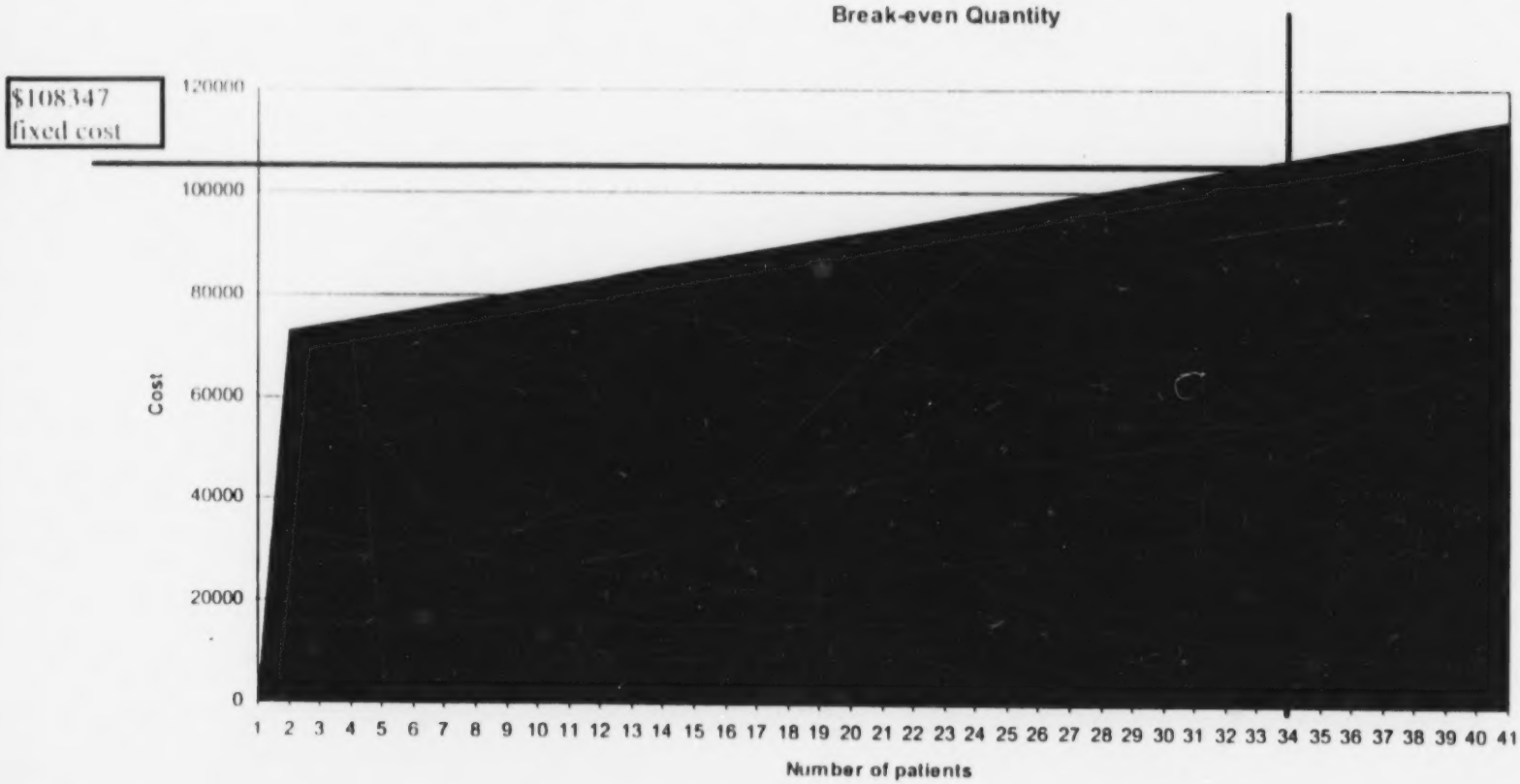
142

Table VII

RMP CAPD
Break-even Analysis

Patients	Cost	Revenue
0	72647	
1	73697	3200
2	74747	6400
3	75797	9600
4	76847	12800
5	77897	16000
6	78947	19200
7	79997	22400
8	81047	25600
9	82097	28800
10	83147	32000
11	84197	35200
12	85247	38400
13	86297	41600
14	87347	44800
15	88397	48000
16	89447	51200
17	90497	54400
18	91547	57600
19	92597	60800
20	93647	64000
21	94697	67200
22	95747	70400
23	96797	73600
24	97847	76800
25	98897	80000
26	99947	83200
27	100997	86400
28	102047	89600
29	103097	92800
30	104147	96000
31	105197	99200
32	106247	102400
33	107297	105600
34	108347	108800
35	109397	112000
36	110447	115200

Table VIII



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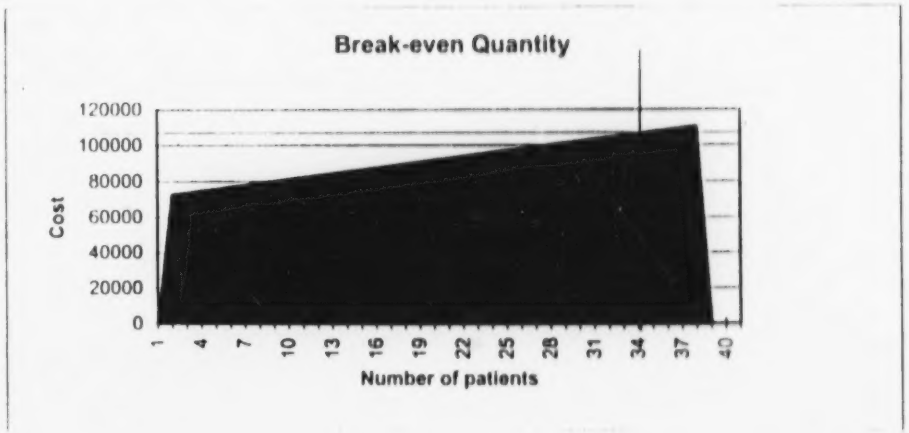
RMP CAPD
Break-even Analysis

Patients	Costs	Revenue
0	72647	0
1	73697	3200
2	74747	6400
3	75797	9600
4	76847	12800
5	77897	16000
6	78947	19200
7	79997	22400
8	81047	25600
9	82097	28800
10	83147	32000
11	84197	35200
12	85247	38400
13	86297	41600
14	87347	44800
15	88397	48000
16	89447	51200
17	90497	54400
18	91547	57600
19	92597	60800
20	93647	64000
21	94697	67200
22	95747	70400
23	96797	73600
24	97847	76800
25	98897	80000
26	99947	83200
27	100997	86400
28	102047	89600
29	103097	92800
30	104147	96000
31	105197	99200
32	106247	102400
33	107297	105600
34	108347	108800
35	109397	112000
36	110447	115200



LOAN AMORTIZATION TABLE

Construction and remodel costs for RMP

Date 4/25/98

Lender Name Huge HMO

Pmnt #	Start of Period	Annual Interest Rate	Scheduled Balance	Actual Balance	Scheduled Payment	Interest Portion	Principal Portion	Additional Principal
1	10/98	9.00%	171,874.00	171,874.00	(21,322.50)	(15,468.66)	(5,853.84)	
2	10/99	9.00%	166,020.16	166,020.16	(21,322.50)	(14,941.81)	(6,380.68)	
3	10/00	9.00%	159,639.48	159,639.48	(21,322.50)	(14,367.55)	(6,954.94)	
4	10/01	9.00%	152,684.54	152,684.54	(21,322.50)	(13,741.61)	(7,580.89)	
5	10/02	9.00%	145,103.65	145,103.65	(21,322.50)	(13,059.33)	(8,263.17)	
6	10/03	9.00%	136,840.48	136,840.48	(21,322.50)	(12,315.64)	(9,006.85)	
7	10/04	9.00%	127,833.63	127,833.63	(21,322.50)	(11,505.03)	(9,817.47)	
8	10/05	9.00%	118,016.16	118,016.16	(21,322.50)	(10,621.45)	(10,701.04)	
9	10/06	9.00%	107,315.12	107,315.12	(21,322.50)	(9,658.36)	(11,664.14)	
10	10/07	9.00%	95,650.98	95,650.98	(21,322.50)	(8,608.59)	(12,713.91)	
11	10/08	9.00%	82,937.08	82,937.08	(21,322.50)	(7,464.34)	(13,858.16)	
12	10/09	9.00%	69,078.92	69,078.92	(21,322.50)	(6,217.10)	(15,105.39)	
13	10/10	9.00%	53,973.52	53,973.52	(21,322.50)	(4,857.62)	(16,464.88)	
14	10/11	9.00%	37,508.64	37,508.64	(21,322.50)	(3,375.78)	(17,946.72)	
15	10/12	9.00%	19,561.92	19,561.92	(21,322.50)	(1,760.57)	(19,561.92)	

Construction/remodel costs amortized over 15 years at 9%

Renal Management Program (RMP)

411 N. Lakeview
Anaheim, California 92807

LOAN DATA

Lender Name	Huge HMO		
Basic Loan Information			
Amount Beginning of Loan	$171,874.00	Annual Interest Rate	9.00%
		Length of Loan, Years	15
		Payments Per Year	12
Payment Information			
Total Payments	180	Calculated Payment	$1,743.26
		Entered Payment	
Summary Information			
Total Paid	($313,786.91)	Interest Paid	($141,912.91)

Construction costs 114.58 per square foot

LOAN AMORTIZATION TABLE

Construction and remodel costs for RMP

Date: 4/25/98

Lender Name: Huge HMO

Pmnt #	Start of Period	Annual Interest Rate	Scheduled Balance	Actual Balance	Scheduled Payment	Interest Portion	Principal Portion	Additional Principal
1	04/98	9.00%	171,874.00	171,874.00	(1,743.26)	(1,289.06)	(454.21)	
2	05/98	9.00%	171,419.79	171,419.79	(1,743.26)	(1,285.65)	(457.61)	
3	06/98	9.00%	170,962.18	170,962.18	(1,743.26)	(1,282.22)	(461.04)	
4	07/98	9.00%	170,501.14	170,501.14	(1,743.26)	(1,278.76)	(464.50)	
5	08/98	9.00%	170,036.64	170,036.64	(1,743.26)	(1,275.27)	(467.99)	
6	09/98	9.00%	169,568.65	169,568.65	(1,743.26)	(1,271.76)	(471.50)	
7	10/98	9.00%	169,097.15	169,097.16	(1,743.26)	(1,268.23)	(475.03)	
8	11/98	9.00%	168,622.12	168,622.12	(1,743.26)	(1,264.67)	(478.59)	
9	12/98	9.00%	168,143.53	168,143.53	(1,743.26)	(1,261.08)	(482.18)	
10	01/99	9.00%	167,661.34	167,661.34	(1,743.26)	(1,257.46)	(485.80)	
11	02/99	9.00%	167,175.54	167,175.54	(1,743.26)	(1,253.82)	(489.44)	
12	03/99	9.00%	166,686.10	166,686.10	(1,743.26)	(1,250.15)	(493.11)	
13	04/99	9.00%	166,192.98	166,192.99	(1,743.26)	(1,246.45)	(496.81)	
14	05/99	9.00%	165,696.17	165,696.17	(1,743.26)	(1,242.72)	(500.54)	
15	06/99	9.00%	165,195.63	165,195.63	(1,743.26)	(1,238.97)	(504.29)	
16	07/99	9.00%	164,691.34	164,691.34	(1,743.26)	(1,235.19)	(508.08)	
17	08/99	9.00%	164,183.26	164,183.26	(1,743.26)	(1,231.37)	(511.89)	
18	09/99	9.00%	163,671.38	163,671.38	(1,743.26)	(1,227.54)	(515.73)	
19	10/99	9.00%	163,155.65	163,155.65	(1,743.26)	(1,223.67)	(519.59)	
20	11/99	9.00%	162,636.06	162,636.06	(1,743.26)	(1,219.77)	(523.49)	
21	12/99	9.00%	162,112.57	162,112.57	(1,743.26)	(1,215.84)	(527.42)	
22	01/00	9.00%	161,585.15	161,585.15	(1,743.26)	(1,211.89)	(531.37)	
23	02/00	9.00%	161,053.78	161,053.78	(1,743.26)	(1,207.90)	(535.36)	
24	03/00	9.00%	160,518.42	160,518.43	(1,743.26)	(1,203.89)	(539.37)	
25	04/00	9.00%	159,979.05	159,979.05	(1,743.26)	(1,199.84)	(543.42)	
26	05/00	9.00%	159,435.63	159,435.64	(1,743.26)	(1,195.77)	(547.49)	
27	06/00	9.00%	158,888.14	158,888.14	(1,743.26)	(1,191.66)	(551.60)	
28	07/00	9.00%	158,336.54	158,336.54	(1,743.26)	(1,187.52)	(555.74)	
29	08/00	9.00%	157,780.80	157,780.81	(1,743.26)	(1,183.36)	(559.90)	
30	09/00	9.00%	157,220.90	157,220.90	(1,743.26)	(1,179.16)	(564.10)	
31	10/00	9.00%	156,656.80	156,656.80	(1,743.26)	(1,174.93)	(568.33)	
32	11/00	9.00%	156,088.46	156,088.46	(1,743.26)	(1,170.66)	(572.60)	
33	12/00	9.00%	155,515.86	155,515.87	(1,743.26)	(1,166.37)	(576.89)	
34	01/01	9.00%	154,938.97	154,938.98	(1,743.26)	(1,162.04)	(581.22)	
35	02/01	9.00%	154,357.75	154,357.76	(1,743.26)	(1,157.68)	(585.58)	
36	03/01	9.00%	153,772.18	153,772.18	(1,743.26)	(1,153.29)	(589.97)	
37	04/01	9.00%	153,182.21	153,182.21	(1,743.26)	(1,148.87)	(594.39)	
38	05/01	9.00%	152,587.81	152,587.82	(1,743.26)	(1,144.41)	(598.85)	
39	06/01	9.00%	151,988.96	151,988.96	(1,743.26)	(1,139.92)	(603.34)	
40	07/01	9.00%	151,385.62	151,385.62	(1,743.26)	(1,135.39)	(607.87)	
41	08/01	9.00%	150,777.75	150,777.75	(1,743.26)	(1,130.83)	(612.43)	
42	09/01	9.00%	150,165.32	150,165.33	(1,743.26)	(1,126.24)	(617.02)	
43	10/01	9.00%	149,548.30	149,548.31	(1,743.26)	(1,121.61)	(621.65)	
44	11/01	9.00%	148,926.65	148,926.66	(1,743.26)	(1,116.95)	(626.31)	
45	12/01	9.00%	148,300.34	148,300.35	(1,743.26)	(1,112.25)	(631.01)	
46	01/02	9.00%	147,669.34	147,669.34	(1,743.26)	(1,107.52)	(635.74)	
47	02/02	9.00%	147,033.59	147,033.60	(1,743.26)	(1,102.75)	(640.51)	
48	03/02	9.00%	146,393.09	146,393.09	(1,743.26)	(1,097.95)	(645.31)	
49	04/02	9.00%	145,747.77	145,747.78	(1,743.26)	(1,093.11)	(650.15)	
50	05/02	9.00%	145,097.62	145,097.63	(1,743.26)	(1,088.23)	(655.03)	
51	06/02	9.00%	144,442.59	144,442.60	(1,743.26)	(1,083.32)	(659.94)	
52	07/02	9.00%	143,782.65	143,782.66	(1,743.26)	(1,078.37)	(664.89)	
53	08/02	9.00%	143,117.76	143,117.77	(1,743.26)	(1,073.38)	(669.88)	
54	09/02	9.00%	142,447.88	142,447.89	(1,743.26)	(1,068.36)	(674.90)	
55	10/02	9.00%	141,772.98	141,772.99	(1,743.26)	(1,063.30)	(679.96)	
56	11/02	9.00%	141,093.02	141,093.02	(1,743.26)	(1,058.20)	(685.06)	

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LOAN AMORTIZATION TABLE

Construction and remodel costs for RMP

Date: 4/25/98

Lender Name: Huge HMO

Pmnt #	Start of Period	Annual Interest Rate	Scheduled Balance	Actual Balance	Scheduled Payment	Interest Portion	Principal Portion	Additional Principal
57	12/02	9.00%	140,407.96	140,407.96	(1,743.26)	(1,053.06)	(690.20)	
58	01/03	9.00%	139,717.76	139,717.76	(1,743.26)	(1,047.88)	(695.38)	
59	02/03	9.00%	139,022.38	139,022.38	(1,743.26)	(1,042.67)	(700.59)	
60	03/03	9.00%	138,321.79	138,321.79	(1,743.26)	(1,037.41)	(705.85)	
61	04/03	9.00%	137,615.94	137,615.94	(1,743.26)	(1,032.12)	(711.14)	
62	05/03	9.00%	136,904.80	136,904.80	(1,743.26)	(1,026.79)	(716.47)	
63	06/03	9.00%	136,188.32	136,188.33	(1,743.26)	(1,021.41)	(721.85)	
64	07/03	9.00%	135,466.47	135,466.48	(1,743.26)	(1,016.00)	(727.26)	
65	08/03	9.00%	134,739.21	134,739.22	(1,743.26)	(1,010.54)	(732.72)	
66	09/03	9.00%	134,006.50	134,006.50	(1,743.26)	(1,005.05)	(738.21)	
67	10/03	9.00%	133,268.28	133,268.29	(1,743.26)	(999.51)	(743.75)	
68	11/03	9.00%	132,524.54	132,524.54	(1,743.26)	(993.93)	(749.33)	
69	12/03	9.00%	131,775.21	131,775.21	(1,743.26)	(988.31)	(754.95)	
70	01/04	9.00%	131,020.26	131,020.27	(1,743.26)	(982.65)	(760.61)	
71	02/04	9.00%	130,259.65	130,259.66	(1,743.26)	(976.95)	(766.31)	
72	03/04	9.00%	129,493.34	129,493.35	(1,743.26)	(971.20)	(772.06)	
73	04/04	9.00%	128,721.28	128,721.29	(1,743.26)	(965.41)	(777.85)	
74	05/04	9.00%	127,943.43	127,943.44	(1,743.26)	(959.58)	(783.68)	
75	06/04	9.00%	127,159.74	127,159.75	(1,743.26)	(953.70)	(789.56)	
76	07/04	9.00%	126,370.18	126,370.19	(1,743.26)	(947.78)	(795.48)	
77	08/04	9.00%	125,574.70	125,574.70	(1,743.26)	(941.81)	(801.45)	
78	09/04	9.00%	124,773.25	124,773.25	(1,743.26)	(935.80)	(807.46)	
79	10/04	9.00%	123,965.79	123,965.79	(1,743.26)	(929.74)	(813.52)	
80	11/04	9.00%	123,152.27	123,152.28	(1,743.26)	(923.64)	(819.62)	
81	12/04	9.00%	122,332.65	122,332.66	(1,743.26)	(917.49)	(825.77)	
82	01/05	9.00%	121,506.89	121,506.89	(1,743.26)	(911.30)	(831.96)	
83	02/05	9.00%	120,674.93	120,674.93	(1,743.26)	(905.06)	(838.20)	
84	03/05	9.00%	119,836.73	119,836.73	(1,743.26)	(898.78)	(844.49)	
85	04/05	9.00%	118,992.24	118,992.25	(1,743.26)	(892.44)	(850.82)	
86	05/05	9.00%	118,141.42	118,141.43	(1,743.26)	(886.06)	(857.20)	
87	06/05	9.00%	117,284.22	117,284.23	(1,743.26)	(879.63)	(863.63)	
88	07/05	9.00%	116,420.60	116,420.60	(1,743.26)	(873.15)	(870.11)	
89	08/05	9.00%	115,550.49	115,550.50	(1,743.26)	(866.63)	(876.63)	
90	09/05	9.00%	114,673.86	114,673.86	(1,743.26)	(860.05)	(883.21)	
91	10/05	9.00%	113,790.65	113,790.66	(1,743.26)	(853.43)	(889.83)	
92	11/05	9.00%	112,900.82	112,900.83	(1,743.26)	(846.76)	(896.50)	
93	12/05	9.00%	112,004.32	112,004.32	(1,743.26)	(840.03)	(903.23)	
94	01/06	9.00%	111,101.09	111,101.10	(1,743.26)	(833.26)	(910.00)	
95	02/06	9.00%	110,191.09	110,191.09	(1,743.26)	(826.43)	(916.83)	
96	03/06	9.00%	109,274.26	109,274.27	(1,743.26)	(819.56)	(923.70)	
97	04/06	9.00%	108,350.55	108,350.56	(1,743.26)	(812.63)	(930.63)	
98	05/06	9.00%	107,419.92	107,419.93	(1,743.26)	(805.65)	(937.61)	
99	06/06	9.00%	106,482.31	106,482.32	(1,743.26)	(798.62)	(944.64)	
100	07/06	9.00%	105,537.67	105,537.68	(1,743.26)	(791.53)	(951.73)	
101	08/06	9.00%	104,585.94	104,585.95	(1,743.26)	(784.39)	(958.87)	
102	09/06	9.00%	103,627.07	103,627.08	(1,743.26)	(777.20)	(966.06)	
103	10/06	9.00%	102,661.02	102,661.03	(1,743.26)	(769.96)	(973.30)	
104	11/06	9.00%	101,687.71	101,687.72	(1,743.26)	(762.66)	(980.60)	
105	12/06	9.00%	100,707.11	100,707.12	(1,743.26)	(755.30)	(987.96)	
106	01/07	9.00%	99,719.15	99,719.16	(1,743.26)	(747.89)	(995.37)	
107	02/07	9.00%	98,723.79	98,723.80	(1,743.26)	(740.43)	(1,002.83)	
108	03/07	9.00%	97,720.95	97,720.96	(1,743.26)	(732.91)	(1,010.35)	
109	04/07	9.00%	96,710.60	96,710.61	(1,743.26)	(725.33)	(1,017.93)	
110	05/07	9.00%	95,692.67	95,692.68	(1,743.26)	(717.70)	(1,025.57)	
111	06/07	9.00%	94,667.11	94,667.11	(1,743.26)	(710.00)	(1,033.26)	
112	07/07	9.00%	93,633.85	93,633.86	(1,743.26)	(702.25)	(1,041.01)	

LOAN AMORTIZATION TABLE

Construction and remodel costs for RMP

Date: 4/25/98

Lender Name: Huge HMO

Pmnt #	Start of Period	Annual Interest Rate	Scheduled Balance	Actual Balance	Scheduled Payment	Interest Portion	Principal Portion	Additional Principal
113	08/07	9.00%	92,592.84	92,592.85	(1,743.26)	(694.45)	(1,048.81)	
114	09/07	9.00%	91,544.03	91,544.04	(1,743.26)	(686.58)	(1,056.68)	
115	10/07	9.00%	90,487.35	90,487.36	(1,743.26)	(678.66)	(1,064.61)	
116	11/07	9.00%	89,422.74	89,422.75	(1,743.26)	(670.67)	(1,072.59)	
117	12/07	9.00%	88,350.15	88,350.16	(1,743.26)	(662.63)	(1,080.63)	
118	01/08	9.00%	87,269.52	87,269.53	(1,743.26)	(654.52)	(1,088.74)	
119	02/08	9.00%	86,180.78	86,180.79	(1,743.26)	(646.36)	(1,096.90)	
120	03/08	9.00%	85,083.87	85,083.88	(1,743.26)	(638.13)	(1,105.13)	
121	04/08	9.00%	83,978.74	83,978.75	(1,743.26)	(629.84)	(1,113.42)	
122	05/08	9.00%	82,865.32	82,865.33	(1,743.26)	(621.49)	(1,121.77)	
123	06/08	9.00%	81,743.55	81,743.56	(1,743.26)	(613.08)	(1,130.18)	
124	07/08	9.00%	80,613.37	80,613.38	(1,743.26)	(604.60)	(1,138.66)	
125	08/08	9.00%	79,474.71	79,474.72	(1,743.26)	(596.06)	(1,147.20)	
126	09/08	9.00%	78,327.51	78,327.52	(1,743.26)	(587.46)	(1,155.80)	
127	10/08	9.00%	77,171.70	77,171.71	(1,743.26)	(578.79)	(1,164.47)	
128	11/08	9.00%	76,007.23	76,007.24	(1,743.26)	(570.05)	(1,173.21)	
129	12/08	9.00%	74,834.02	74,834.03	(1,743.26)	(561.26)	(1,182.01)	
130	01/09	9.00%	73,652.02	73,652.03	(1,743.26)	(552.39)	(1,190.87)	
131	02/09	9.00%	72,461.15	72,461.16	(1,743.26)	(543.46)	(1,199.80)	
132	03/09	9.00%	71,261.35	71,261.36	(1,743.26)	(534.46)	(1,208.80)	
133	04/09	9.00%	70,052.54	70,052.56	(1,743.26)	(525.39)	(1,217.87)	
134	05/09	9.00%	68,834.68	68,834.69	(1,743.26)	(516.26)	(1,227.00)	
135	06/09	9.00%	67,607.68	67,607.69	(1,743.26)	(507.06)	(1,236.20)	
136	07/09	9.00%	66,371.47	66,371.49	(1,743.26)	(497.79)	(1,245.47)	
137	08/09	9.00%	65,126.00	65,126.01	(1,743.26)	(488.45)	(1,254.82)	
138	09/09	9.00%	63,871.18	63,871.20	(1,743.26)	(479.03)	(1,264.23)	
139	10/09	9.00%	62,606.96	62,606.97	(1,743.26)	(469.55)	(1,273.71)	
140	11/09	9.00%	61,333.25	61,333.26	(1,743.26)	(460.00)	(1,283.26)	
141	12/09	9.00%	60,049.99	60,050.00	(1,743.26)	(450.38)	(1,292.89)	
142	01/10	9.00%	58,757.10	58,757.12	(1,743.26)	(440.68)	(1,302.58)	
143	02/10	9.00%	57,454.52	57,454.53	(1,743.26)	(430.91)	(1,312.35)	
144	03/10	9.00%	56,142.17	56,142.18	(1,743.26)	(421.07)	(1,322.19)	
145	04/10	9.00%	54,819.97	54,819.99	(1,743.26)	(411.15)	(1,332.11)	
146	05/10	9.00%	53,487.86	53,487.88	(1,743.26)	(401.16)	(1,342.10)	
147	06/10	9.00%	52,145.76	52,145.78	(1,743.26)	(391.09)	(1,352.17)	
148	07/10	9.00%	50,793.60	50,793.61	(1,743.26)	(380.95)	(1,362.31)	
149	08/10	9.00%	49,431.29	49,431.30	(1,743.26)	(370.73)	(1,372.53)	
150	09/10	9.00%	48,058.76	48,058.78	(1,743.26)	(360.44)	(1,382.82)	
151	10/10	9.00%	46,675.94	46,675.96	(1,743.26)	(350.07)	(1,393.19)	
152	11/10	9.00%	45,282.75	45,282.77	(1,743.26)	(339.62)	(1,403.64)	
153	12/10	9.00%	43,879.11	43,879.13	(1,743.26)	(329.09)	(1,414.17)	
154	01/11	9.00%	42,464.94	42,464.96	(1,743.26)	(318.49)	(1,424.77)	
155	02/11	9.00%	41,040.17	41,040.18	(1,743.26)	(307.80)	(1,435.46)	
156	03/11	9.00%	39,604.71	39,604.73	(1,743.26)	(297.04)	(1,446.23)	
157	04/11	9.00%	38,158.48	38,158.50	(1,743.26)	(286.19)	(1,457.07)	
158	05/11	9.00%	36,701.41	36,701.43	(1,743.26)	(275.26)	(1,468.00)	
159	06/11	9.00%	35,233.41	35,233.43	(1,743.26)	(264.25)	(1,479.01)	
160	07/11	9.00%	33,754.40	33,754.42	(1,743.26)	(253.16)	(1,490.10)	
161	08/11	9.00%	32,264.30	32,264.32	(1,743.26)	(241.98)	(1,501.28)	
162	09/11	9.00%	30,763.02	30,763.04	(1,743.26)	(230.72)	(1,512.54)	
163	10/11	9.00%	29,250.48	29,250.50	(1,743.26)	(219.38)	(1,523.88)	
164	11/11	9.00%	27,726.60	27,726.62	(1,743.26)	(207.95)	(1,535.31)	
165	12/11	9.00%	26,191.29	26,191.31	(1,743.26)	(196.43)	(1,546.83)	
166	01/12	9.00%	24,644.47	24,644.48	(1,743.26)	(184.83)	(1,558.43)	
167	02/12	9.00%	23,086.04	23,086.06	(1,743.26)	(173.15)	(1,570.12)	
168	03/12	9.00%	21,515.92	21,515.94	(1,743.26)	(161.37)	(1,581.89)	

LOAN AMORTIZATION TABLE ~~151~~

Construction and remodel costs for RMP

Date: 4/25/98

Lender Name: Huge HMO

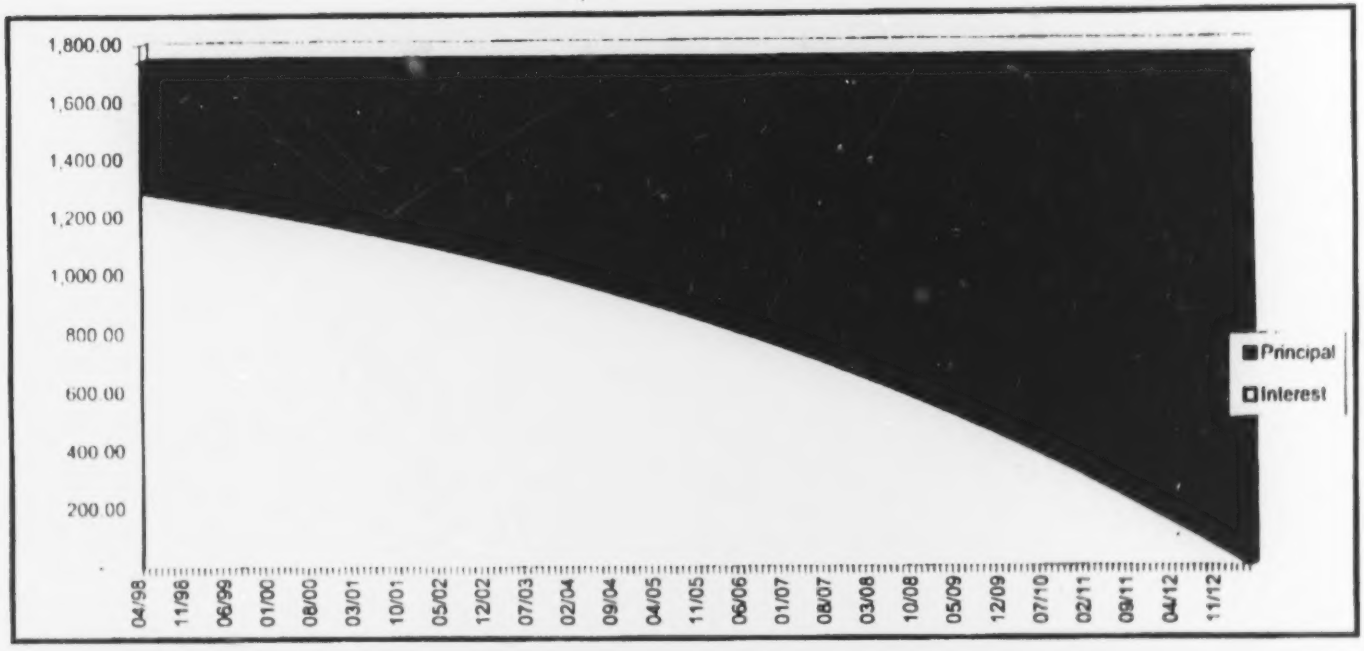
Pmnt #	Start of Period	Annual Interest Rate	Scheduled Balance	Actual Balance	Scheduled Payment	Interest Portion	Principal Portion	Additional Principal
169	04/12	9.00%	19,934.03	19,934.05	(1,743.26)	(149.51)	(1,593.76)	
170	05/12	9.00%	18,340.28	18,340.29	(1,743.26)	(137.55)	(1,605.71)	
171	06/12	9.00%	16,734.57	16,734.59	(1,743.26)	(125.51)	(1,617.75)	
172	07/12	9.00%	15,116.82	15,116.84	(1,743.26)	(113.38)	(1,629.88)	
173	08/12	9.00%	13,486.93	13,486.95	(1,743.26)	(101.15)	(1,642.11)	
174	09/12	9.00%	11,844.82	11,844.84	(1,743.26)	(88.84)	(1,654.42)	
175	10/12	9.00%	10,190.40	10,190.42	(1,743.26)	(76.43)	(1,666.83)	
176	11/12	9.00%	8,523.57	8,523.59	(1,743.26)	(63.93)	(1,679.33)	
177	12/12	9.00%	6,844.23	6,844.25	(1,743.26)	(51.33)	(1,691.93)	
178	01/13	9.00%	5,152.30	5,152.32	(1,743.26)	(38.64)	(1,704.62)	
179	02/13	9.00%	3,447.69	3,447.71	(1,743.26)	(25.86)	(1,717.40)	
180	03/13	9.00%	1,730.28	1,730.30	(1,743.28)	(12.98)	(1,730.30)	

Construction/remodel costs amortized over 15 years at 9%

Renal Management Program (RMP)

411 N. Lakeview
Anaheim, California 92807

SUMMARY GRAPH



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LOAN AMORTIZATION TABLE

Capital equipment and furniture for RMP

Date: 4/25/98

Lender Name: Huge HMO

Pmnt #	Start of Period	Annual Interest Rate	Scheduled Balance	Actual Balance	Scheduled Payment	Interest Portion	Principal Portion	Additional Principal
1	10/98	9.00%	5,785.00	5,785.00	(1,045.20)	(520.65)	(524.55)	
2	10/99	9.00%	5,260.45	5,260.45	(1,045.20)	(473.44)	(571.76)	
3	10/00	9.00%	4,688.69	4,688.69	(1,045.20)	(421.98)	(623.22)	
4	10/01	9.00%	4,065.47	4,065.47	(1,045.20)	(365.89)	(679.31)	
5	10/02	9.00%	3,386.16	3,386.16	(1,045.20)	(304.75)	(740.45)	
6	10/03	9.00%	2,645.71	2,645.71	(1,045.20)	(238.11)	(807.09)	
7	10/04	9.00%	1,838.63	1,838.63	(1,045.20)	(165.48)	(879.72)	
8	10/05	9.00%	958.90	958.90	(1,045.20)	(86.30)	(958.90)	
9			-	-	-	-	-	
10			-	-	-	-	-	
11			-	-	-	-	-	
12			-	-	-	-	-	
13			-	-	-	-	-	
14			-	-	-	-	-	
15			-	-	-	-	-	

cost of capital equipment and furniture amortized over 8 years at 9% per regional purchasing. Costs of equipment obtained from regional equipment catalogue

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Renal Management Program (RMP)

411 N. Lakeview
Anaheim, California 92807

LOAN DATA

Lender Name	Huge HMO		
Basic Loan Information			
Amount Beginning of Loan	$5,785.00	Annual Interest Rate	9.00%
		Length of Loan, Years	8
		Payments Per Year	12
Payment Information			
Total Payments	96	Calculated Payment	$84.75
		Entered Payment	
Summary Information			
Total Paid	($8,136.14)	Interest Paid	($2,351.14)

Cost of capital equipment and furniture amortized over 8 years at 9% per Huge Regional Purchasing Department. Costs per regional furniture catalogue.

LOAN AMORTIZATION TABLE

Capital equipment and furniture for RMP

Date: 4/25/98

Lender Name: Huge HMO

Pmnt #	Start of Period	Annual Interest Rate	Scheduled Balance	Actual Balance	Scheduled Payment	Interest Portion	Principal Portion	Additional Principal
1	04/98	9.00%	5,785.00	5,785.00	(84.75)	(43.39)	(41.36)	
2	05/98	9.00%	5,743.64	5,743.64	(84.75)	(43.08)	(41.67)	
3	06/98	9.00%	5,701.96	5,701.96	(84.75)	(42.76)	(41.99)	
4	07/98	9.00%	5,659.98	5,659.98	(84.75)	(42.45)	(42.30)	
5	08/98	9.00%	5,617.67	5,617.67	(84.75)	(42.13)	(42.62)	
6	09/98	9.00%	5,575.05	5,575.05	(84.75)	(41.81)	(42.94)	
7	10/98	9.00%	5,532.12	5,532.12	(84.75)	(41.49)	(43.26)	
8	11/98	9.00%	5,488.86	5,488.86	(84.75)	(41.17)	(43.59)	
9	12/98	9.00%	5,445.27	5,445.27	(84.75)	(40.84)	(43.91)	
10	01/99	9.00%	5,401.36	5,401.36	(84.75)	(40.51)	(44.24)	
11	02/99	9.00%	5,357.12	5,357.12	(84.75)	(40.18)	(44.57)	
12	03/99	9.00%	5,312.54	5,312.54	(84.75)	(39.84)	(44.91)	
13	04/99	9.00%	5,267.64	5,267.64	(84.75)	(39.51)	(45.24)	
14	05/99	9.00%	5,222.39	5,222.39	(84.75)	(39.17)	(45.58)	
15	06/99	9.00%	5,176.81	5,176.81	(84.75)	(38.83)	(45.93)	
16	07/99	9.00%	5,130.88	5,130.88	(84.75)	(38.48)	(46.27)	
17	08/99	9.00%	5,084.61	5,084.61	(84.75)	(38.13)	(46.62)	
18	09/99	9.00%	5,038.00	5,038.00	(84.75)	(37.79)	(46.97)	
19	10/99	9.00%	4,991.03	4,991.03	(84.75)	(37.43)	(47.32)	
20	11/99	9.00%	4,943.71	4,943.71	(84.75)	(37.08)	(47.67)	
21	12/99	9.00%	4,896.04	4,896.04	(84.75)	(36.72)	(48.03)	
22	01/00	9.00%	4,848.01	4,848.01	(84.75)	(36.36)	(48.39)	
23	02/00	9.00%	4,799.62	4,799.62	(84.75)	(36.00)	(48.75)	
24	03/00	9.00%	4,750.86	4,750.86	(84.75)	(35.63)	(49.12)	
25	04/00	9.00%	4,701.74	4,701.74	(84.75)	(35.26)	(49.49)	
26	05/00	9.00%	4,652.25	4,652.25	(84.75)	(34.89)	(49.86)	
27	06/00	9.00%	4,602.39	4,602.40	(84.75)	(34.52)	(50.23)	
28	07/00	9.00%	4,552.16	4,552.16	(84.75)	(34.14)	(50.61)	
29	08/00	9.00%	4,501.55	4,501.55	(84.75)	(33.76)	(50.99)	
30	09/00	9.00%	4,450.56	4,450.56	(84.75)	(33.38)	(51.37)	
31	10/00	9.00%	4,399.19	4,399.19	(84.75)	(32.99)	(51.76)	
32	11/00	9.00%	4,347.43	4,347.43	(84.75)	(32.61)	(52.15)	
33	12/00	9.00%	4,295.29	4,295.29	(84.75)	(32.21)	(52.54)	
34	01/01	9.00%	4,242.75	4,242.75	(84.75)	(31.82)	(52.93)	
35	02/01	9.00%	4,189.82	4,189.82	(84.75)	(31.42)	(53.33)	
36	03/01	9.00%	4,136.49	4,136.49	(84.75)	(31.02)	(53.73)	
37	04/01	9.00%	4,082.76	4,082.76	(84.75)	(30.62)	(54.13)	
38	05/01	9.00%	4,028.63	4,028.63	(84.75)	(30.21)	(54.54)	
39	06/01	9.00%	3,974.09	3,974.10	(84.75)	(29.81)	(54.95)	
40	07/01	9.00%	3,919.15	3,919.15	(84.75)	(29.39)	(55.36)	
41	08/01	9.00%	3,863.79	3,863.79	(84.75)	(28.98)	(55.77)	
42	09/01	9.00%	3,808.02	3,808.02	(84.75)	(28.56)	(56.19)	
43	10/01	9.00%	3,751.83	3,751.83	(84.75)	(28.14)	(56.61)	
44	11/01	9.00%	3,695.21	3,695.22	(84.75)	(27.71)	(57.04)	
45	12/01	9.00%	3,638.18	3,638.18	(84.75)	(27.29)	(57.47)	
46	01/02	9.00%	3,580.71	3,580.71	(84.75)	(26.86)	(57.90)	
47	02/02	9.00%	3,522.82	3,522.82	(84.75)	(26.42)	(58.33)	
48	03/02	9.00%	3,464.49	3,464.49	(84.75)	(25.98)	(58.77)	
49	04/02	9.00%	3,405.72	3,405.72	(84.75)	(25.54)	(59.21)	
50	05/02	9.00%	3,346.51	3,346.51	(84.75)	(25.10)	(59.65)	
51	06/02	9.00%	3,286.86	3,286.86	(84.75)	(24.65)	(60.10)	
52	07/02	9.00%	3,226.76	3,226.76	(84.75)	(24.20)	(60.55)	
53	08/02	9.00%	3,166.21	3,166.21	(84.75)	(23.75)	(61.00)	
54	09/02	9.00%	3,105.20	3,105.20	(84.75)	(23.29)	(61.46)	
55	10/02	9.00%	3,043.74	3,043.74	(84.75)	(22.83)	(61.92)	
56	11/02	9.00%	2,981.82	2,981.82	(84.75)	(22.36)	(62.39)	

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LOAN AMORTIZATION TABLE

Capital equipment and furniture for RMP

Date: 4/25/98

Lender Name: Huge HMO

Pmnt #	Start of Period	Annual Interest Rate	Scheduled Balance	Actual Balance	Scheduled Payment	Interest Portion	Principal Portion	Additional Principal
57	12/02	9.00%	2,919.43	2,919.43	(84.75)	(21.90)	(62.86)	
58	01/03	9.00%	2,856.57	2,856.57	(84.75)	(21.42)	(63.33)	
59	02/03	9.00%	2,793.24	2,793.25	(84.75)	(20.95)	(63.80)	
60	03/03	9.00%	2,729.44	2,729.44	(84.75)	(20.47)	(64.28)	
61	04/03	9.00%	2,665.16	2,665.16	(84.75)	(19.99)	(64.76)	
62	05/03	9.00%	2,600.40	2,600.40	(84.75)	(19.50)	(65.25)	
63	06/03	9.00%	2,535.15	2,535.15	(84.75)	(19.01)	(65.74)	
64	07/03	9.00%	2,469.41	2,469.41	(84.75)	(18.52)	(66.23)	
65	08/03	9.00%	2,403.18	2,403.18	(84.75)	(18.02)	(66.73)	
66	09/03	9.00%	2,336.45	2,336.46	(84.75)	(17.52)	(67.23)	
67	10/03	9.00%	2,269.23	2,269.23	(84.75)	(17.02)	(67.73)	
68	11/03	9.00%	2,201.49	2,201.50	(84.75)	(16.51)	(68.24)	
69	12/03	9.00%	2,133.25	2,133.26	(84.75)	(16.00)	(68.75)	
70	01/04	9.00%	2,064.50	2,064.50	(84.75)	(15.48)	(69.27)	
71	02/04	9.00%	1,995.23	1,995.24	(84.75)	(14.96)	(69.79)	
72	03/04	9.00%	1,925.45	1,925.45	(84.75)	(14.44)	(70.31)	
73	04/04	9.00%	1,855.14	1,855.14	(84.75)	(13.91)	(70.84)	
74	05/04	9.00%	1,784.30	1,784.30	(84.75)	(13.38)	(71.37)	
75	06/04	9.00%	1,712.93	1,712.93	(84.75)	(12.85)	(71.90)	
76	07/04	9.00%	1,641.02	1,641.03	(84.75)	(12.31)	(72.44)	
77	08/04	9.00%	1,568.58	1,568.58	(84.75)	(11.76)	(72.99)	
78	09/04	9.00%	1,495.59	1,495.60	(84.75)	(11.22)	(73.53)	
79	10/04	9.00%	1,422.06	1,422.06	(84.75)	(10.67)	(74.09)	
80	11/04	9.00%	1,347.97	1,347.98	(84.75)	(10.11)	(74.64)	
81	12/04	9.00%	1,273.33	1,273.33	(84.75)	(9.55)	(75.20)	
82	01/05	9.00%	1,198.13	1,198.13	(84.75)	(8.99)	(75.77)	
83	02/05	9.00%	1,122.37	1,122.37	(84.75)	(8.42)	(76.33)	
84	03/05	9.00%	1,046.03	1,046.03	(84.75)	(7.85)	(76.91)	
85	04/05	9.00%	969.13	969.13	(84.75)	(7.27)	(77.48)	
86	05/05	9.00%	891.64	891.64	(84.75)	(6.69)	(78.06)	
87	06/05	9.00%	813.58	813.58	(84.75)	(6.10)	(78.65)	
88	07/05	9.00%	734.93	734.93	(84.75)	(5.51)	(79.24)	
89	08/05	9.00%	655.69	655.69	(84.75)	(4.92)	(79.83)	
90	09/05	9.00%	575.86	575.86	(84.75)	(4.32)	(80.43)	
91	10/05	9.00%	495.42	495.43	(84.75)	(3.72)	(81.04)	
92	11/05	9.00%	414.39	414.39	(84.75)	(3.11)	(81.64)	
93	12/05	9.00%	332.74	332.75	(84.75)	(2.50)	(82.26)	
94	01/06	9.00%	250.49	250.49	(84.75)	(1.88)	(82.87)	
95	02/06	9.00%	167.61	167.62	(84.75)	(1.26)	(83.49)	
96	03/06	9.00%	84.12	84.12	(84.75)	(0.63)	(84.12)	

Cost of capital equipment and furniture amortized over 8 years at 9% per regional purchasing

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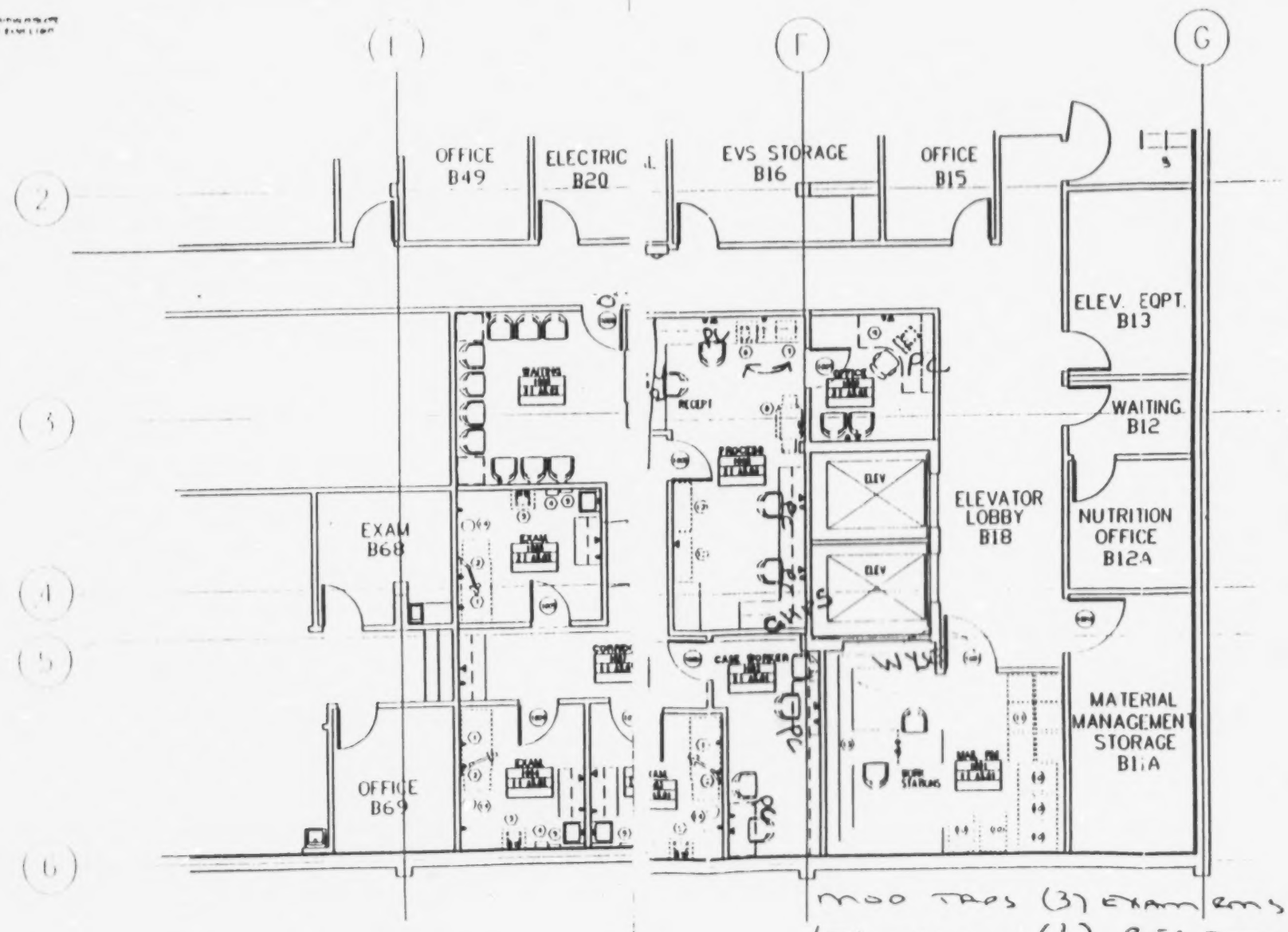

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SCHEME #1

Appendix I

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